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USSR Report

HUMAN RESOURCES

No. 12

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CONTENTS

LABOR

Construction Ministry Hastens Mechanization of Labor
(V. Rostotskiy; PLANOVOYE KHOZYAYSTVO, May 80).......... 1

Wages by Type, Rate for Industry, Construction Workers
(VESTNIK STATISTIKI, Jun 80)........................... 12

Part-Time Work for Mothers Defined
(Yu. Korshunov; TRUD, 4 Jun 80)......................... 23

EDUCATION

Vocational Training, Guidance for Turkmen Students
(M. Aliyeva; SHKOLA I PROIZVODSTVO, Jun 80)............ 26

Developing VUZ's in Siberia, Far East
(D.N. Kharitonov; VESTNIK VYSSHEY SHKOLY, Jun 80)...... 34

Vocational-Technical Education in Georgia Examined
(ZARYA VOSTOKA, 2 Jul 80).............................. 40

Census Totals on Education, By Residence, Sex, Level Achieved
(VESTNIK STATISTIKI, Jun 80)........................... 43

DEMOGRAPHY

Controlling the Social Structure of the Employed Population
(N. Aitov; PLANOVOYE KHOZYAYSTVO, Jun 80)............... 67

Census Results Reveal Significant Social Progress
(A. Isupov; VESTNIK STATISTIKI, Mar 80)................ 76

LABOR

CONSTRUCTION MINISTRY HASTENS MECHANIZATION OF LABOR

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 5, May 80 pp 3-10

[Article by V. Rostotskiy, first deputy minister of Construction, Road, and Municipal Machine Building: "Ministry's Role in Accelerating Mechanization of Labor-Consuming Processes"]

[Text] Our party and government attach enormous importance to accelerating scientific and technological progress, mechanizing labor-consuming processes and reducing the portion of manual labor in the national economy, since these problems are becoming especially acute to the growing labor shortage in the nation. At the November 1979 Plenum of the CPSU Central Committee, L. I. Brezhnev reiterated the fact that we must accelerate the mechanization of manual jobs, especially heavy manual labor.

A certain amount of success has been achieved toward the accomplishment of this task at enterprises of the Ministry of Construction, Road, and Municipal Machine Building. Output was 2.8-fold greater in 1979 than in 1966, with only a 19 percent increase in the number of production personnel in the industry. A full 88 percent of the production growth was achieved by improving labor productivity, which increased by 2.4-fold during that period, with an average annual growth rate of 7 percent. In recent years more and more plants--40 percent of the total number in 1979--have been raising output without increasing their work force.

Improved technology and increased labor productivity based on mechanization have made it possible systematically to reduce the wholesale prices of products, despite an increase in the cost of raw and processed materials.

The branch produces an enormous list of items--more than 2600--in small series, and individual plants annually manufacture from 50 to 100 different items, which makes mechanization of labor difficult. Despite this, the degree of labor mechanization in the branch reached 59.9 percent in 1979, with a 53.8 percent average for machine building. Enterprises of the Ministry of Construction, Road, and Municipal Machine Building are outstripping the other machine building branches in this respect.

For 1980 the ministry was assigned the task of increasing the portion of mechanized labor to 61 percent. This will make it possible to relieve around 2,300 workers from manual labor. Mechanization in machine building is approximately 5 to 6 years ahead of the average level.

The task of reducing manual labor in machine building is complicated by the fact that a large number of technological processes are involved in each production stage, and each stage requires special ways and means of resolving this problem. The problem is especially acute for the auxiliary operations and for mechanizing the work of loaders, subsidiary workers, transport and warehouse personnel, storekeepers, janitors for production buildings, and so forth. Auxiliary workers account for as much as 60 percent of the total number performing manual jobs.

In the Ministry of Construction, Road, and Municipal Machine Building steps to mechanize manual labor are defined in the five-year and annual plant retooling plans. These plans call for the adoption of new equipment and technology, making it possible to switch workers from manual to mechanized or automated jobs and to reduce the amount of manual labor, especially heavy and hazardous labor. The measures contained in the retooling plans are included in collective agreements, and their implementation is monitored not only by the administration, but also by plant trade union and party organizations.

The ministry formed the All-Union industrial association, Soyuzstroymashautomatizatsiya, to create the materials and equipment base needed to accomplish these tasks. Its functions include: the development of new technological processes and their adoption in the industry; the design, manufacture and adoption of new means of production automation and mechanization, nonstandard equipment, instrumentation and active monitoring means; and installation and adjustment of the manufactured equipment.

The association includes 6 planning and technological institutes with 3 branches, 2 design offices and 10 production enterprises, as well as 2 installation and adjustment trusts embracing 12 installation and adjustment administrations. These administrations performed around 21 million rubles worth of installation and adjustment work during the period 1976-79.

Soyuzstroymashautomatizatsiya plants have now been specialized in the production of various mechanization means for specific jobs and production stages. For example, the Uryupinsk plant produces machinery for hoisting and hauling, loading and unloading jobs; the Tol'yatti plant manufactures mechanized warehouses and crane-stackers, as well as heavy percussive dies for ministry plants; the Zelenokumsk plant manufactures mechanization equipment for welding jobs; the Khimki plant turns out special metal-cutting equipment and the equipment for automatic electroplating lines; the Skopin plant manufactures equipment for mechanized heat-treatment and other types of industrial furnaces, and so forth.

The concentration of design institutes, plants for the manufacture of nonstandard equipment instrumentation, and installation and adjustment organizations handling equipment installation and the introduction of new technology in a single All-Union industrial association proved extremely effective. During the first 4 years of the current five-year plan, design, technological and research work totaling around 54 million rubles has been performed by the design and technological organizations alone, under business agreements with the enterprises, and more than 3,000 design projects have been introduced at ministry plants.

Plants belonging to the Soyuzstroymashautomatizatsiya previously manufactured series-type products. Their conversion to the production of mechanization means involved certain difficulties and was basically completed within 3 years. The difficulties resulted primarily from the fact that an enterprise now had to produce relatively complex and precision machines, machine tools and attachments in very small series, and even single items. The VPTIstroydormash experimental plant, for example, previously produced tinplated milk cans. Following reorganization and retooling, it now manufactures complex multispindle metal-working machines and automatic lines. This required more highly skilled workers, as well as engineers and technicians, more complex equipment and new production control methods.

The difficulty of converting to the new production was a matter of surmounting a kind of psychological barrier. The fact is that the switch to individual, labor-consuming production of mechanization means involved 2 or 3 years of considerably reduced sales of output in monetary terms, and this met with opposition not only by the plant management, but also frequently by local organizations.

The difficulties were overcome within a relatively short time, however, and the results of the association's functioning demonstrated the effectiveness of this kind of organization. The State Committee of the USSR for Science and Technology and the Central Committee of the Trade Union of Heavy Machine Builders discussed at their meetings the results of the work performed by the Ministry of Construction, Road, and Municipal Machine Building to mechanize manual labor and recommended that other ministries study this experience and create special enterprises for the production of means of labor mechanization in their own branches.

During the period 1976-79 Soyuzstroymashautomatizatsiya plants manufactured and delivered to branch enterprises around 102 million rubles worth of production mechanization and automation equipment. They produced 365 special and standard-design machine tools, 371 special presses, 555 units of casting equipment and 714 units of welding equipment, more than 2800 special cranes and hoists, 303 slat, overhead, flat-truck and other types of conveyors, around 26,000 units of nonstandard equipment, 7,000 special dies and around 320,000 accounting and business machines.

Implementation of the technical reequipment plans made it possible during the first four years of the current five-year plan to reduce labor consumption in the production of most items by 20 million standard-hours, to cut production costs by 45 million rubles and to mechanize the manual labor of 9,100 workers. By the end of 1980 the specific portion of workers engaged in manual labor will have been reduced to 30 percent (excluding workers engaged in the adjustment and repair of machinery).

Loading and unloading jobs, hauling and warehouse work have been mechanized to an especially large degree.

Ministry enterprises were receiving no more than two to five sets of equipment for mechanized warehouses each year out of USSR Gossnab allocations. Under these circumstances the restructuring of warehouse facilities would have taken a long time. The production of warehouse equipment set up at Soyuzstroymashautomatizatsiya plants made it possible within a short time to create 1,380 mechanized warehouses equipped with crane-stackers, including those with remote and programmed control and with other mechanisms. The level of mechanization in loading and unloading work was increased to 84 percent in 1979 for the branch as a whole. Around 530,000 units of standardized containers were manufactured and placed into use. The use of 1,000 such containers frees 10 to 12 workers from manual labor. Association plants produced 3,860 units of intrashop loading and hoisting equipment and cranes worth around 40 million rubles for mechanizing loading and hauling and warehouse jobs.

The use of mechanized, multitiered warehouses with crane-stackers and standardized containers has not only freed a large number of workers from heavy manual labor but has also changed the appearance of the shops. The plants no longer have disorderly piles of parts and semi-finished items in the aisles between machines. They are now arranged in multitiered racks at the ends of the shops or in the so-called dead space between the columns and beneath the crane runways.

The experience of the Odessa Heavy Crane-Building Plant imeni January Uprising in mechanizing loading and unloading work and warehouse jobs is a good example. An overall plan for mechanizing such jobs was developed there and began to be implemented in 1967. As a result, 21 warehouses for parts and semi-finished products have been created and equipped with crane-stackers. A total of 126 transport units and overhead traveling, gantry and other types of cranes are functioning in the shops and on plant territory, and 10,000 units of standardized containers have been accumulated there. The volume of containerized shipments has increased 30-fold, and 7,000 tons of freight can be stored simultaneously in the mechanized warehouses and in containers. Production volume increased 2.4-fold during that period, while the number of workers engaged in warehouse and loading and unloading work was reduced by one-third (200 workers). These jobs are 92 percent mechanized and labor is 77 percent mechanized at the plant.

Substantial changes have taken place in the technology employed in other production stages of the shops and plants as well, especially in the foundry work.

The foundries at enterprises of the Ministry of Construction, Road, and Municipal Machine Building were built back in the 1950's or even earlier. In many cases they were outfitted with obsolete equipment, and working conditions there did not always conform to modern health standards. Under the 10th Five-Year Plan the ministry began the planned technical reequipment of these shops. The Khar'kov Special Planning and Design and Technological Bureau of the Ministry of Construction, Road, and Municipal Machine Building worked out plans for the technological reequipment of 26 foundry and 37 forging shops which required it the most. Their technical reequipment has now been basically completed. A draft plan is being worked out for the 11th Five-Year Plan for completing the technical reequipment of all foundry and forging shops which do not conform in one way or another to modern requirements.

The technical reequipment of the foundries has been accompanied by the extensive adoption of progressive production processes, the specific portion of which increased from 26.8 percent in 1970 to 41 percent in 1979. At many foundries of plants under the Ministry of Construction, Road, and Municipal Machine Building, for example, the casting processes use liquid and plastic self-congealing mold mixtures with a base of organic or synthetic bonding agents. The equipment for these production processes was manufactured at Soyuzstroymashautomatizatsiya plants. The labor productivity of the molders has increased 2-fold as a result, the labor involved in the dressing operations has been reduced 20-30 percent, and working conditions have improved (the noise level and dust precipitation have dropped). Foundry production using these mixtures reached 208,900 tons in 1979, a 2.1-fold increase over the 1970 figure.

Using this technology, such plants as Volgotsementmash and the Voronezh, Kovrov and Kalinin excavator plants have set up flow-line production of individual and small-series cast items, and the labor-consuming, manual compaction of molding mixtures has been eliminated. These enterprises have relieved 150 workers of heavy manual labor by reducing the labor-intensity of dressing operations.

A mechanized line for the permanent-mold casting of furnace shells has been installed in the foundry of the Khar'kov "Konditsioner" plant. The permanent molds are suspended from a loop conveyor, and all the production processes are mechanized. The line is equipped with a convective ventilation system, and conditioned air is fed to the area. This has removed the heavy manual labor from 20 workers.

Production volume in the totally mechanized foundries had increased to 583,400 tons in 1979, and the specific portion of mechanized foundry production was 71.3 percent, compared with 62.6 percent in 1975. Labor productivity increased 12.5 percent in the cast steel shops, 9.7 percent in the cast iron shops and 24 percent in the non-ferrous metal foundries. A total of 3,470 workers in the foundries were freed as a result of this, including a considerable number of workers engaged in heavy manual labor.

The work of the coremakers is being mechanized by means of semi-automatic machines for producing cores in heated equipment, which was designed and manufactured by Soyuzstroymasavtomatizatsiya institutes and plants. This method raises labor productivity 2- to 3-fold.

A method has been developed and is beginning to be adopted for casting items by using steel particles instead of sand in the molds. In the casting process the steel particles are held around an expanded polystyrene model by means of a powerful magnetic field created with special electromagnets. In order to remove the cast item from the mold one simply turns off the current from the electromagnet and the particles spill out. This method requires no manual labor, greatly increases output, improves production conditions, improves the quality of the cast items and the purity of their surfaces and reduces the amount of labor involved in the trimming work.

Metal-mold casting has undergone considerable development, and the production of metal-mold casting machines has been set up for introducing this method at branch enterprises. Multiunit, metal-mold casting wheels designed by VPTIstroydormash are being used at a number of plants. The "Lesoplavmash" plant in Pozhva, for example, has increased its casting output by 75 percent as a result of adopting such lines.

A great deal has also been done to mechanize the work in forge and press shops, which have an important place in the production of construction and road machines, and the specific portion of forged blanks is increasing rapidly. At the Donetsk Excavator Plant, for example, the output of blanks was increased 45.6 percent in 1979 over the 1970 level as a result of technical reequipment of existing shops and the construction of new ones. Furthermore, the portion of die forging increased to 50.6 percent of the total forged blank production in 1979, compared with 39 percent in 1970, and the production of high-precision blanks increased 1.3-fold over the 1975 level. As a result of implementing the technical reequipment plan for forge and press production, the totally mechanized shops produced 1.5-fold more blanks in 1979 than in 1975.

A group of standardized equipment has been developed and is being adopted for mechanizing the labor-consuming and heavy forging jobs. This equipment, as well as heavy percussive press tools, are being manufactured centrally. This is providing the basis for the planned mechanization of many forge and press shops (at the Ivanovskiy Truck-Mounted Crane Plant, the Berdyansk Road Machine Plant, the Kryukovo Fan Plant and others, for example).

A total of 16 automatic lines for stamping parts for the electric motors of mechanized tools, developed by VPTIstroydormash, have been placed into production.

A totally mechanized flow line for processing a large range of parts is operating at the Kuybyshev "Stroymmashina" plant. This is achieved by using universal stamping equipment, with minimal time required to ready it and to reset the line. The use of this line has made it possible to relieve 19 workers of manual labor.

The technical level of welding work has been raised and the manual labor involved has been eliminated at ministry enterprises through the total mechanization of shops and sections and the adoption of new welding processes. In 1979 mechanized welding methods (automatic and semiautomatic welding in a medium of carbon dioxide, with powder-core welding wire, beneath a layer of flux, resistance welding, and others) were used to produce more than 1 million tons of welded machine assemblies, frames, mounts and similar equipment, which was more than 73 percent of the total output of welded items, compared with 41 percent in 1965. Production volume for welded assemblies was 2.1-fold greater in 1979 than in 1965.

The Ninth and 10th Five-Year Plans saw the introduction of such advanced mechanized welding methods as welding in mixtures of protective gases, the resistance, projection welding of elevator structures, the stored-energy arc welding of stainless steel, wear-resistant facing with a powder strip, air-plasma cutting, packeted cutting of rolled sheet metal without first cutting the sheet into patterned sections, and so forth. The latter method produces a cleaner surface along the cut and reduces labor consumption by 60 to 70 percent.

With the adoption of advanced welding methods the level of mechanization and the output of the welders are increased not only by the series-type equipment obtained from plants of the electrical industry, but also as a result of the special fabrication equipment produced at one of the Soyuzstroymasautomatizatsiya plants. Standard non-stock equipment has been developed and is being manufactured, which makes it possible rapidly to set up the mechanized welding of any new item, to increase output and to reduce the portion of manual labor.

Six totally mechanized fabrication sections have gone into operation at the Kovrov Excavator Plant, for example, and two mechanized flow lines are in use at the Ivanovskiy Peat Machine Plant. The complete outfitting of these sections and lines with mechanized assembly, welding and interoperation transport equipment increased labor productivity more than 2-fold and freed 327 workers.

Production lines for the manufacture of track frames and rotating platforms have been equipped with nonstandard means of mechanization at the Donetsk Excavator Plant, as a result of which the labor consumption of fabrication work dropped by 50 percent, the level of mechanization reached 100 percent, and 56 workers were conditionally freed.

During the period 1970-1979 plants of the Ministry of Construction, Road, and Municipal Machine Building completely mechanized 26 welding shops and 355 sections, and placed into operation 214 mechanized flow lines and 4,000 automatic welders, special units and other advanced equipment. The level of mechanization and automation of welding work was raised to 80.5 percent in 1979. The technical reequipment of welding operations made it possible to switch 4,000 workers from manual to mechanized labor.

A great deal of work has been performed to improve assembly operations by completely mechanizing shops and sections and by employing mechanized flow and conveyor lines for special and standard machine tools, machines with digital program control and other highly efficient equipment. During the years of the 10th Five-Year Plan alone 43 shops and 729 sections have been totally mechanized; 450 mechanized, automatic and semiautomatic flow lines and around 2,500 units of automatic and semiautomatic, special, highly productive equipment have been placed into operation; and 2,500 units of metal-processing equipment have been modernized.

Soyuzstroymashautomatizatsiya plants have begun manufacturing high-performance special and standard machine tools for the machine-assembly shops using technical documentation provided by the planning and technological institutes. For example, a 64-spindle standard-unit drilling machine has been created for processing the balance arms for self-propelled graters. Of relatively simple design, it does not even have a gear box, since it is designed for processing a single part and each tool operates in a single preset mode. The absence of a gear box gives the machine greater reliability. The semiautomatic mode simplifies the operator's job and increases labor productivity 4.5-fold.

Manual labor is being eliminated and new technology introduced especially successfully in the comprehensive resolution of problems involved in mechanizing the shops and plants. In recent years planning and technological institutes of the Ministry of Construction, Road, and Municipal Machine Building have advanced from the resolution of specific, local problems, from the development of technology for the production of individual new items, to the creation of plans for the comprehensive mechanization of shops and sections, and of mechanized flow, conveyor and automatic lines outfitted with high-performance equipment and entailing the adoption of advanced technological processes.

At the "Elektrostroyinstrument" plant in Rezekne, for example, the assembly shop for the preparation of electric motor armatures and stators and for assemblying and testing power tools has been totally mechanized. The work positions are provided with high-performance automatic and semiautomatic equipment and accounting and business machines, and the transport and warehouse jobs are mechanized. Labor productivity in the shop has increased 29 percent, and the degree of mechanization has risen to 89 percent.

The Kovrov Excavator Plant has set up the production of hydraulic excavators with a bucket capacity of 1 cubic meter, replacing the previous excavator, which had a mechanical drive and a bucket capacity of 0.65 cubic meters. The new technology was developed by the planning and technological institutes, and the equipment, which was manufactured at Soyuzstroymashavtomatizatsiya plants, includes a mechanized flow line for machining the reducing valve cases, an assembly conveyor, standard-unit machines for the rough processing and the finishing of parts, and more. It took 2 years to master production of the new excavator, during which time production volumes did not drop at the enterprise. It had taken 7 years for the plant to master production of the previous excavator model on its own.

Let us describe one more example confirming the effectiveness of centralized, comprehensive resolution of problems pertaining to the mechanization of production. Manual labor was previously predominant at the "Stroygidravlika" plant in Odessa. Within a short period of time the enterprise underwent thorough technical reequipment and was outfitted with high-performance equipment. It mastered the production of extremely complex hydraulic equipment--hydraulic axial-piston motors and pumps of various types and sizes designed to handle pressures of 250 atmospheres. Thanks to its own efforts and to the enormous assistance received from Soyuzstroymashavtomatizatsiya planning institutes and plants, the plant has become a model enterprise of communist labor with a high caliber of large-series production of high-precision items. Three shops and 4 sections have been totally mechanized, and 31 mechanized flow lines have been placed into operation. The equipment structure has been improved: Around 15 percent is made up of special and standard-unit machines.

Loading and unloading, hoisting and hauling and warehouse jobs at the plant have been mechanized. Compact trucks with bins are extensively employed for the interoperation hauling and storage of parts, and mechanized warehouses with crane-stackers have been adopted. The level of mechanization of the loading and unloading operations has been raised to 94 percent.

The amount of labor involved in the production of our articles has been reduced by 840,000 standard-hours, 460 workers have been conditionally freed and labor productivity has increased 2.2-fold. In 1979, 85 percent of our products bore the Emblem of Quality.

During the current five-year plan 14 shops and 227 sections will be totally mechanized, 86 conveyor-type and mechanized flow lines will be created, and 2100 units of special assembly and testing equipment will be manufactured and placed into use.

A great deal is being done to mechanize painting and finishing operations. A total of 56 completely mechanized painting and finishing and galvanizing shops and sections, and 143 mechanized painting and plating flow lines were created at enterprises of the Ministry of Construction, Road, and Municipal

Machine Building under the Ninth and 10th Five-Year Plans. Special robot-operators have been created and are being employed to eliminate the heavy and hazardous work involved in painting the interiors of welded tanks and other vessels. In 1979 we began introducing painting machines with a new operating principle based on the non-aerated atomization of the paint at a pressure of 250 atmospheres, instead of the 3-5 atmospheres ordinarily used. The process raises labor productivity by 20 percent and improves working conditions by reducing the formation of mist, and paint conservation is as great as 25 percent. A total of 400 workers have been switched over to mechanized labor as a result of the mechanization of painting operations and the automation of plating shops.

In order to mechanize the work of OTK [department of technical control] controllers, instruments are being created at the institutes and plants, which make it possible to check the dimensions of parts as they are being processed on a machine. At the "Pnevmostroymashina" plant in Sverdlovsk, for example, an instrument is being used for active, visual monitoring of the depth of the holes drilled on a drilling machine. The instrument is equipped with an indicator and makes it possible to check holes up to 300 millimeters in depth with an accuracy of 30 microns. At the Ivanovskiy Order of the Labor Red Banner Truck-Mounted Crane Plant an instrument is used for actively monitoring the diameter of the swivel-bases as they are processed on vertical surfacing lathes. A special exhibit was held at the VDNKh [Exhibition of Achievements of the National Economy] of the USSR, featuring the work of the Ministry of Construction, Road, and Municipal Machine Building's outstanding enterprises--the winners of socialist competition. It contained a considerable number of instruments and devices making it possible to mechanize the controller's work.

However, I must point out the fact that the parts and operations monitored numbers many millions, and because of this the controller's work cannot be totally mechanized in a short time. And since they comprise 3.3 percent of the workers at plants of the Ministry of Construction, Road, and Municipal Machine Building, this considerably lowers the overall production mechanization indices.

The table below shows that the specific portion of workers engaged in manual labor was reduced in all the basic production shops at branch enterprises between 1969 and 1979 as a result of technical reequipment and the mechanization of labor-consuming processes.

	Workers engaged in manual labor as a percentage of the total number of workers	
	1969	1979
Basic production shops:		
Iron casting, steel casting, nonferrous metal casting	48.7	32.1
Forging and pressing and stamping	40.6	24.2
Machining, machine-assembly and assembly	41.1	26.0
Others	50.5	30.9

The degree of labor mechanization, 48 percent at the end of the Eighth Five-Year Plan, was raised to 55.7 percent under the Ninth Five-Year Plan and will reach 61 percent by the end of the 10th Five-Year Plan. In 1979 production volume had increased 2.1-fold over the 1969 figure, while the number of workers increased by only 14 percent and the number engaged in manual labor was reduced by 57,000. This is a significant result of the goal-oriented work performed by the ministry to technically reequip the enterprises and to reduce the portion of manual labor in accordance with decisions coming out of the 25th party congress and subsequent plenums of the CPSU Central Committee and with the decrees passed by the CPSU Central Committee and the USSR Council of Ministers on improving the economic system.

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LABOR

WAGES BY TYPE, RATE FOR INDUSTRY, CONSTRUCTION WORKERS

Moscow VESTNIK STATISTIKI in Russian No 6, Jun 80 pp 63-71

[Text] Distribution of Industry and Construction Workers by Wage Form and System and by Rate Category.

Distribution of Industry and Construction Workers by Wage Form and System (in percent)

	(1) Годы	(2) Всего рабочих	(3) В том числе оплачиваемых						
			(4) по сдельной форме оплаты труда				(5) по повременной форме оплаты труда		
			(6) всего	(7) из них по системам			(6) всего	(7) из них по системам	
				(8) прямой	(9) премиальной	(10) прогрессивной		(8) простой	(9) премиальной
11) Промышленность — всего	1969	100	56.6	15.8	40.5	0.3	43.4	2.3	41.1
	1979	100	54.5	4.0	50.4	0.1	45.5*	1.5	43.1
12) Электроэнергетика . .	1969	100	2.5	1.3	1.2	—	97.5	1.7	95.8
	1979	100	1.6	0.5	1.1	—	98.4	0.6	97.8
13) Нефтедобывающая промышленность	1969	100	11.5	2.9	8.6	—	88.5	0.3	88.2
	1979	100	13.8	2.1	11.7	—	86.2	0.1	86.1
14) Нефтеперерабатывающая промышленность	1969	100	11.5	6.3	5.2	—	88.5	0.5	88.0
	1979	100	14.0	2.1	11.9	—	86.0	0.0	86.0

Key:

1.	Year	8.	Directly
2.	All workers	9.	Bonus system
3.	Including those paid:	10.	Progressive system
4.	Piece-rate	11.	All industry
5.	Time-rate	12.	Electric power engineering
6.	All	13.	Petroleum extraction industry
7.	Of those:	14.	Oil refining industry

*including those paid in the VAZ [Volga Automotive Plant] experiment -- 0.9 percent.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	—	[illegible]
16) Угольные шахты	1960 1979	100 100	47,8 45,8	0,4 0,1	47,4 45,7	— —	52,2 54,2	0,6 0,1	51,6 54,1
17) Угольные разрезы	1960 1979	100 100	45,7 40,9	1,9 1,0	43,8 39,9	— —	54,3 59,1	0,3 0,0	54,0 59,1
18) Обогащение угля и производство угольных брикетов	1960 1979	100 100	8,1 10,8	0,8 0,7	7,3 10,1	— —	91,9 89,2	0,2 0,1	91,7 89,1
19) Сланцевые шахты	1960 1979	100 100	49,2 35,5	0,6 0,2	48,6 35,3	— —	50,8 64,5	0,7 —	50,1 64,5
20) Сланцевые разрезы	1960 1979	100 100	34,6 38,5	— —	34,6 38,5	— —	65,4 61,5	— —	65,4 61,5
21) Торфяная промышленность	1960 1979	100 100	61,1 63,2	12,7 9,3	48,4 53,9	— —	38,9 36,8	8,1 5,7	30,8 31,1
22) Черная металлургия	1960 1979	100 100	57,9 54,2	9,7 3,2	46,8 50,5	1,4 0,5	42,1 45,8	0,8 0,6	41,3 45,2
23) Добыча и обогащение рудного сырья для черной металлургии	1960 1979	100 100	53,1 49,0	6,2 1,9	46,9 47,1	— —	46,9 51,0	0,6 0,2	46,3 50,8
24) Химическая и нефтехимическая промышленность	1960 1979	100 100	36,0 34,9	9,0 2,0	27,0 32,9	— —	64,0 65,1	0,9 0,9	63,1 64,2
25) в том числе									
26) химическая промышленность	1979	100	31,9	2,4	29,5	—	68,1	1,1	67,0
27) из них:									
28) основная химия	1960 1979	100 100	23,0 22,1	8,6 2,0	14,4 20,1	— —	77,0 77,9	0,6 0,7	76,4 77,2
29) промышленность волокон и нитей химических	1979	100	39,9	0,7	39,2	—	60,1	0,7	59,4
30) промышленность пластмассовых изделий, стекловолокнистых материалов, стеклопластиков и изделий из них	1979	100	59,2	5,3	53,9	—	40,8	1,5	39,3

Key:

15. Gas industry
16. Coal mines
17. Open-pit mines
18. Coal enrichment and production of coal briquets
19. Shale mines
20. Open-pit shale mines
21. Peat industry
22. Ferrous metallurgy
23. Ore mining and enrichment for ferrous metallurgy
24. Chemical and petrochemical industry
25. Including:
26. Chemical industry
27. Of that:
28. Basic chemistry
29. Chemical fiber and thread industry
30. Plastics, fiberglass, fiber glass-reinforced plastic industry

31) нефтехимическая промышленность	1979	100	44,2	0,9	43,3	—	55,8	0,5	55,3
27) из них:									
32) резино-асбестовая промышленность	1969 1979	100 100	59,2 58,5	5,8 1,2	53,4 57,3	— —	40,8 41,5	0,9 0,9	39,9 40,6
33) химико-фармацевтическая промышленность	1979	100	33,2	1,0	32,2	—	66,8	0,4	66,4
34) Машиностроение и металлообработка	1969 1979	100 100	54,8 54,0	27,7 4,6	26,6 49,2	0,5 0,2	45,2 46,0*	1,4 1,2	43,8 42,7
25) в том числе:									
35) машиностроение	1969 1979	100 100	54,0 53,5	26,6 3,7	26,9 49,7	0,5 0,1	46,0 46,5*	1,2 1,2	44,8 42,9
27) из них:									
36) тяжелое, энергетическое и транспортное машиностроение	1979	100	50,8	2,7	47,9	0,2	49,2	1,1	48,1
37) электротехническая промышленность	1969 1979	100 100	58,3 59,4	31,0 8,2	26,9 51,1	0,4 0,1	41,7 40,6*	1,9 1,1	39,8 39,1
38) химическое и нефтяное машиностроение	1979	100	54,8	6,0	48,5	0,3	45,2	1,0	44.2
39) станкостроительная и инструментальная промышленность	1969 1979	100 100	55,0 54.6	33,0 4.8	21,7 49,7	0,3 0,1	45,0 45,4*	1.9 0.8	43.1 44.5
40) приборостроение	1969 1979	100 100	58,2 57,3	32,6 3.5	25,4 53,7	0,2 0,1	41,8 42,7	0,9 0,5	40,9 42.2
41) автомобильная промышленность	1969 1979	100 100	52,6 38,5	24,0 2,0	27,9 36,4	0,7 0,1	47,4 61,5*	1,0 0.4	46,4 38,1

Key:

31. Petrochemical industry	36. Heavy, power-engineering and transport machine building
32. Rubber-asbestos industry	37. Electrical engineering industry
33. Chemical-pharmaceuticals industry	38. Chemical and petroleum machine building
34. Machine building and metalworking	39. Machine-tool and tool industry
35. Machine building	40. Instrument making
	41. Automotive industry

*including those paid in the VAZ experiment: 2.1 percent in machine building and metalworking, 2.4 percent in machine building, 0.4 percent in electrical engineering industry, 0.1 percent in machine-tool and tool industry, 23.0 percent in automotive industry.

42) тракторное и сельскохозяйственное машиностроение	1969 1979	100 100	53,1 57,9	29,4 4,1	22,7 53,6	1,0 0,2	46,9 42,1*	1,4 0,7	45,5 40,8
43) строительно-дорожное и коммунальное машиностроение	1979	100	56,5	6,9	49,4	0,2	43,5	1,6	41,9
44) машиностроение для легкой и пищевой промышленности и бытовых приборов	1979	100	57,4	5,3	52,0	0,1	42,6*	1,3	39,4
45) промышленность металлических конструкций и изделий	1979	100	65,1	18,5	46,3	0,3	34,9*	2,3	32,5
46) ремонт машин и оборудования	1979	100	54,0	8,5	45,1	0,4	46,0	1,6	44,4
47) Лесозаготовительная промышленность	1969 1979	100 100	78,8 76,1	4,5 2,8	74,3 73,3	— —	21,2 23,9	4,3 4,2	16,9 19,7
48) Деревообрабатывающая промышленность	1969 1979	100 100	71,9 68,7	10,5 3,9	61,4 64,8	— —	28,1 31,3	2,8 1,5	25,3 29,8
49) Целлюлозно-бумажная промышленность	1969 1979	100 100	51,8 50,3	13,7 5,5	38,1 44,8	— —	48,2 49,7	2,6 1,8	45,6 47,9
50) Промышленность строительных материалов	1969 1979	100 100	66,8 64,6	11,5 5,6	55,3 59,0	— —	33,2 35,4	4,5 2,3	28,7 33,1
25) в том числе:									
51) цементная промышленность	1969 1979	100 100	54,0 53,3	8,3 3,7	45,7 49,6	— —	46,0 46,7	4,1 2,1	41,9 44,6
52) промышленность сборных железобетонных и бетонных конструкций и изделий	1979	100	64,1	6,3	57,8	—	35,9	1,9	34,0

Key:

42.	Tractor and agricultural machine building	46.	Machinery and equipment repair
43.	Roadbuilding and municipal services machine building	47.	Lumber industry
44.	Machine building for light and food industry and household appliances	48.	Wood-processing industry
45.	Metal components and items industry	49.	Pulp and paper industry
		50	Building materials industry
		51.	Cement industry
		52.	Prefabricated reinforced and ordinary concrete components and items industry

*including those paid in the VAZ experiment: 0.6 percent in tractor and agricultural machine building, 1.9 percent in machine building for light and food industry and household appliances, 0.1 percent in metal components and items industry.

53) промышленность стеновых материалов	1979	100	73,1	4,9	68,2	—	26,9	2,7	24,2
54) Стекольная и фарфоро-фаянсовая промышленность	1960 1979	100 100	61,4 60,8	16,8 5,3	44,6 55,5	— —	38,6 39,2	5,4 2,7	33,2 36,5
55) Легкая промышленность (без текстильной)	1960 1979	100 100	80,0 75,9	10,0 3,4	70,0 72,5	— —	20,0 24,1	1,8 1,0	18,2 23,1
25) в том числе:									
56) швейная промышленность	1960 1979	100 100	83,1 79,1	10,5 3,6	72,6 75,5	— —	16,9 20,9	1,8 0,9	15,1 20,0
57) кожевенная промышленность	1960 1979	100 100	66,1 60,3	10,7 3,0	55,4 57,3	— —	33,9 39,7	2,0 1,2	31,9 38,5
58) меховая промышленность	1960 1979	100 100	69,7 69,4	8,3 2,4	61,4 67,0	— —	30,3 30,6	1,3 0,5	29,0 30,1
59) обувная промышленность	1960 1979	100 100	80,4 76,4	7,6 3,0	72,8 73,4	— —	19,6 23,6	1,5 1,3	18,1 22,3
60) Текстильная промышленность	1960 1979	100 100	63,2 62,6	12,8 6,1	50,4 56,5	— —	36,8 37,4	4,8 3,3	32,0 34,1
25) в том числе:									
61) хлопчатобумажная промышленность	1960 1979	100 100	62,1 60,8	12,4 4,7	49,7 56,1	— —	37,9 39,2	5,7 4,8	32,2 34,4
62) льняная промышленность	1960 1979	100 100	60,6 57,5	10,9 4,0	49,7 53,5	— —	39,4 42,5	5,6 4,8	33,8 37,7
63) шерстяная промышленность	1960 1979	100 100	57,8 62,9	15,1 9,5	42,7 53,4	— —	42,2 37,1	4,1 2,4	38,1 34,7
64) шелковая промышленность	1960 1979	100 100	61,6 58,6	11,6 3,9	50,0 54,7	— —	38,4 41,4	5,6 3,4	32,8 38,0
65) производство текстильной галантереи	1979	100	74.5	18.2	56.3	—	25.5	2.4	23,1
66) трикотажная промышленность	1960 1979	100 100	66,2 65,9	9,4 4,8	56,8 61,1	— —	33,8 34,1	3,0 1,8	30,8 32,3

Key:

53. Wall materials industry
54. Glass and porcelain industry
55. Light industry (excluding textile industry)
56. Garment industry
57. Leather industry
58. Fur industry
59. Footwear industry
60. Textile industry
61. Cotton industry
62. Flax industry
63. Wool industry
64. Silk industry
65. Textile haberdashery production
66. Knitwear industry

67) Пищевая промышленность	1969 1979	100 100	54,2 52,0	6,2 2,4	47,7 49,4	0,3 0,2	45,8 48,0	2,9 1,5	42,9 46,5
25) в том числе:									
68) сахарная промышленность	1969 1979	100 100	19,9 17,6	14,6 10,3	5,3 7,3	— —	80,1 82,4	3,7 1,6	76,4 80,8
69) хлебопекарная промышленность	1969 1979	100 100	62,4 58,2	2,2 0,4	60,2 57,7	— 0,1	37,6 41,8	1,3 0,3	36,3 41,5
70) кондитерская промышленность	1969 1979	100 100	65,7 64,4	4,5 1,7	61,2 62,7	— —	34,3 35,6	1,6 0,6	32,7 35,0
71) маслобойно-жировая промышленность	1969 1979	100 100	32,1 25,1	6,9 2,8	25,2 22,3	— —	67,9 74,9	1,5 0,6	66,4 74,3
72) плодоовощная промышленность	1969 1979	100 100	68,9 63,4	10,8 3,7	58,1 59,5	— 0,2	31,1 36,6	3,7 1,6	27,4 35,0
73) табачно-махорочная промышленность	1969 1979	100 100	59,8 60,0	6,5 2,9	53,3 57,1	— —	40,2 40,0	1,8 0,7	38,4 39,3
74) мясная промышленность	1969 1979	100 100	60,3 59,6	3,4 0,7	56,9 58,9	— —	39,7 40,4	1,6 0,8	38,1 39,6
75) маслосыродельная и молочная промышленность	1969 1979	100 100	53,0 47,2	3,2 0,7	49,8 46,5	— —	47,0 52,8	2,3 0,4	44,7 52,4
76) рыбная промышленность	1969 1979	100 100	69,5 65,7	5,2 1,8	62,2 62,3	2,1 1,6	30,5 34,3	5,7 5,3	24,8 29,0
77) Полиграфическая промышленность	1969 1979	100 100	59,5 57,0	13,9 4,1	45,6 52,9	— —	40,5 43,0	8,3 3,1	32,2 39,9
78) Строительство—всего	1979	100	80,1	27,7	33,2	19,2	19,9	4,3	15,6

Key:

67.	Food industry	74.	Meat industry
68.	Sugar industry	75.	Butter-, cheese-making and milk industry
69.	Baking industry	76.	Fish industry
70.	Confectionery industry	77.	Printing industry
71.	Butter and fats industry	78.	Construction, total
72.	Fruit and vegetables industry		
73.	Tobacco and makhorka industry		

Distribution of Industry and Construction Workers by Rate Category (in percent)

	(1) Всего рабочих	(2) В том числе по тарифным разрядам								(3) Средний тарифный разряд
		1	2	3	4	5	6	7	8	
Промышленность—всего										
(4) тарифицируемые по 6-разрядной тарифной сетке	100	6,0	20,3	28,2	22,5	16,8	6,2	—	—	3,42
(5) тарифицируемые по 8-разрядной тарифной сетке	100	1,9	9,6	23,4	25,4	26,1	12,1	1,4	0,1	4,07
(6) Электроэнергетика	100	3,7	7,9	18,8	27,7	28,6	13,3	—	—	4,09
(7) Нефтедобывающая промышленность	100	2,1	15,8	27,8	31,1	20,2	3,0	—	—	3,61
(8) Нефтеперерабатывающая промышленность	100	2,3	5,8	22,7	33,3	26,8	9,1	—	—	4,04
(9) Газовая промышленность	100	2,5	10,9	20,9	30,3	25,3	10,1	—	—	3,95
(10) Угольные шахты	100	4,0	12,9	22,1	21,5	35,7	3,5	—	—	3,81
(11) Угольные разрезы	100	5,0	10,8	12,9	20,5	27,7	23,1	—	—	4,24
(12) Обогащение угля и производство угольных брикетов	100	1,8	32,2	20,5	18,6	22,3	4,6	—	—	3,41
(13) Сланцевые шахты	100	2,7	13,3	21,2	23,9	37,3	1,6	—	—	3,84
(14) Сланцевые разрезы	100	6,8	9,3	9,9	20,6	27,0	26,4	—	—	4,31
(15) Торфяная промышленность	100	8,7	18,5	17,4	20,9	23,8	10,7	—	—	3,65
Черная металлургия										
(16) тарифицируемые по 6-разрядной тарифной сетке	100	3,4	15,7	25,1	26,1	22,2	7,5	—	—	3,71
(17) тарифицируемые по 8-разрядной тарифной сетке	100	1,8	9,5	23,4	25,2	26,2	12,4	1,4	0,1	4,08
Добыча и обогащение рудного сырья для черной металлургии										
(18) тарифицируемые по 6-разрядной тарифной сетке	100	3,8	13,6	18,5	28,1	25,1	10,9	—	—	3,90

Key:

1. All workers
2. Including, by rate category
3. Average rate category
4. All industry rated on a 6-category scale
5. All industry rated on an 8-category scale
6. Electric power engineering
7. Petroleum extraction industry
8. Oil refining industry
9. Gas industry
10. Coal mines
11. Open-pit coal mines
12. Coal enrichment and coal briquet production
13. Shale mines
14. Open-pit shale mines
15. Peat industry
16. Ferrous metallurgy rated on a 6-category scale
17. Ferrous metallurgy rated on an 8-category scale
18. Ferrous metallurgy ore mining and enrichment rated on a 6-category scale

(19) тарифицируемые по 8-разрядной тарифной сетке	100	1,1	12,5	18,2	27,2	32,5	8,5	0,0	0,0	4,6
(20) Химическая и нефтехимическая промышленность	100	4,0	12,9	25,7	29,2	19,8	8,4			3,7
(21) в том числе:										
(22) химическая промышленность	100	3,9	12,4	25,2	30,2	19,9	8,4	—	—	3,7
(23) из них										
(24) основная химия	100	2,9	9,9	25,0	30,3	22,5	9,4	—	—	3,8
(25) промышленность волокон и нитей химических	100	2,9	10,0	25,2	35,8	17,2	8,9	—	—	3,8
(26) промышленность пластмассовых изделий, стекловолокнистых материалов, стеклопластиков и изделий из них	100	8,0	19,7	23,5	24,7	14,7	9,4	—	—	3,4
(27) нефтехимическая промышленность	100	2,8	13,7	27,3	26,8	20,4	9,0	—	—	3,7
(23) из них:										
(28) резино-асбестовая промышленность	100	3,1	16,9	31,8	26,9	16,3	5,0	—	—	3,5
(29) химико-фармацевтическая промышленность	100	10,4	17,6	24,9	27,1	15,1	4,9	—	—	4,5
(30) Машиностроение и металлообработка тарифицируемые по 6-разрядной тарифной сетке	100	7,0	24,3	27,1	20,7	15,0	5,9	—		3,3
(31) тарифицируемые по 8-разрядной тарифной сетке	100	2,3	11,4	25,7	28,5	21,3	8,8	1,9	0,1	3,9
(21) в том числе										
(32) машиностроение	100	6,7	24,6	27,4	20,7	14,9	5,7	-	-	3,8
(23) из них:										
(33) тяжелое, энергетическое и транспортное машиностроение	100	3,7	20,3	28,1	24,0	17,8	6,1	—	—	3,5
(34) электротехническая промышленность	100	12,2	28,6	24,4	17,0	12,7	5,1	—	—	3,0

Key:

19. Ferrous metallurgy ore mining and enrichment rated on an 8-category scale
20. Chemical and petrochemical industry
21. Including:
22. Chemical industry
23. Of those:
24. Basic chemistry
25. Chemical fiber and thread industry
26. Plastics, fiberglass and fiber glass-reinforced plastics industry
27. Petrochemical industry
28. Rubber-asbestos industry
29. Chemical-pharmaceuticals industry
30. Machine building and metalworking rated on a 6-category scale
31. Machine building and metalworking rated on an 8-category scale
32. Machine building
33. Heavy, power-engineering and transport machine building
34. Electrical engineering industry

(35)химическое и нефтяное машиностроение	100	5,1	25,2	27,1	21,4	15,5	5,4		—	3,33
(36)танкостроительная и инструментальная промышленность	100	3,9	23,9	25,9	22,1	16,8	7,4	—	—	3,46
(37)риборостроение	100	9,0	24,8	26,3	18,8	13,6	7,5	—	—	3,26
(38)втомобильная промышленность	100	3,9	20,9	29,1	23,4	16,6	6,1	—	—	3,46
(39)ракторное и сельскохозяйственное машиностроение	100	5,0	26,2	28,8	19,6	15,1	5,3	—	—	3,27
(40)троительно-дорожное и коммунальное машиностроение	100	5,7	24,8	28,4	22,1	14,4	4,6	—		3,28
(41)машиностроение для легкой и пищевой промышленности и бытовых приборов	100	9,2	27,2	25,3	18,1	13,7	6,2	—		3,15
(42)промышленность металлических конструкций и изделий	100	15,5	27,8	23,1	16,0	12,3	5,3	—		2,95
(43)емонт машин и оборудования	100	7,1	18,8	26,2	23,9	16,9	7,1	—	—	3,46
(44)лесозаготовительная промышленность	100	4,9	11,2	34,6	23,7	12,0	13,6	—	—	3,69
(45)деревообрабатывающая промышленность	100	4,9	16,4	32,1	26,7	14,4	5,5	—	—	3,48
(46)целлюлозно-бумажная промышленность	100	7,3	25,1	27,1	20,8	14,1	5,6	—	—	3,29
(47)промышленность строительных материалов	100	2,5	15,0	29,2	26,2	20,2	6,9	—	—	3,6
(21) том числе										
(48)цементная промышленность	100	1,7	13,2	24,1	29,1	21,8	10,1	—	—	3,8
(49)промышленность сборных железобетонных и бетонных конструкций и изделий	100	2,1	14,7	31,1	26,5	18,4	7,2	—	—	3,6
(50)промышленность стеновых материалов	100	2,6	15,7	29,1	26,1	22,5	4,0	—	—	3,6

Key:

35. Chemical and petroleum machine building
36. Machine-tool and tool industry
37. Instrument making
38. Automotive industry
39. Tractor and agricultural machine building
40. Roadbuilding and municipal-services machine building
41. Machine building for light and food industry and household appliances
42. Metal components and items industry
43. Machinery and equipment repair
44. Lumber industry
45. Wood-processing industry
46. Pulp and paper industry
47. Building materials industry
48. Cement industry
49. Prefabricated reinforced and ordinary concrete components and items industry
50. Wall materials industr

(51) Стекольная и фарфоро-фаянсовая промышленность	100	3,5	18,7	35,7	22,4	15,1	4,6	—	—	3,1
(52) Легкая промышленность (без текстильной)	100	9,7	26,3	31,0	18,0	10,2	4,8	—	—	3,0
(21) в том числе:										
(53) Швейная промышленность	100	9,4	28,9	31,5	17,0	7,7	2,5	—	—	2,9
(54) Кожевенная промышленность	100	6,6	17,1	30,9	24,3	14,6	6,5	—	—	3,4
(55) Меховая промышленность	100	2,0	13,8	26,9	30,7	19,6	7,[illegible]	—	—	3,7
(56) Обувная промышленность	100	13,0	24,7	22,6	16,6	13,5	9,6	—	—	3,2
(57) Текстильная промышленность	100	4,6	16,4	32,1	22,1	19,2	5,6	—	—	3,5
(21) в том числе:										
(58) Хлопчатобумажная промышленность	100	3,6	16,5	31,1	16,1	25,5	7,2	—	—	3,6
(59) Льняная промышленность	100	3,3	19,9	30,4	18,5	23,3	4,6	—	—	3,5
(60) Шерстяная промышленность	100	3,1	17,2	28,1	24,6	20,8	6,2	—	—	3,6
(61) Шелковая промышленность	100	3,5	12,5	23,0	26,5	27,9	6,6	—	—	3,8
(62) Производство текстильной галантереи	100	17,7	24,1	29,6	18,0	7,6	3,0	—	—	2,8
(63) Трикотажная промышленность	100	4,8	13,7	40,5	27,9	9,0	4,1	—	—	3,3
(64) Пищевая промышленность	100	7,5	22,6	31,4	22,2	13,2	3,1	—	—	3,2
(21) в том числе:										
(65) Сахарная промышленность	100	11,8	27,2	27,5	21,0	10,3	2,2	—	—	2,9
(66) Хлебопекарная промышленность	100	5,8	21,0	30,0	29,0	12,9	1,3	—	—	3,2
(67) Кондитерская промышленность	100	16,1	27,7	28,7	15,0	9,9	2,6	—	—	2,82
(68) Маслобойно-жировая промышленность	100	5,0	16,4	26,6	24,1	20,9	7,0	—	—	3,60
(69) Плодоовощная промышленность	100	14,5	39,8	20,7	14,0	8,0	3,0	—	—	2,70

Key:

51. Glass and porcelain-faience industry
52. Light industry (excluding textile industry
53. Garment industry
54. Leather industry
55. Fur industry
56. Footwear industry
57. Textile industry
58. Cotton industry
59. Flax industry
60. Wool industry
61. Silk industry
62. Textile haberdashery production
63. Knitwear industry
64. Food industry
65. Sugar industry
66. Baking industry
67. Confectionery industry
68. Butter and fats industry
69. Fruit and vegetables industry

(70) абачно-махорочная промышленность	100	3,8	25,7	36,5	9,3	14,1	10,6	—	—	3,3
(71) ясная промышленность	100	1,3	10,8	36,2	26,7	19,7	5,3	—	—	3,6
(72) аслосыродельная и молочная промышленность	100	3,4	23,4	35,4	22,4	12,2	3,2	—	—	3,2
(73) ыбная промышленность	100	15,1	28,5	30,5	16,9	7,4	1,6	—	—	2,7
(74) олиграфическая промышленность	100	9,0	19,6	22,6	19,8	18,1	10,9	—	—	3,5
(75) троительство—всего	100	3,6	13,0	25,1	26,8	19,5	12,0	—	—	3,6

Key:

70. Tobacco and makhorka industry
71. Meat industry
72. Butter-, cheese-making and milk industry
73. Fish industry
74. Printing industry
75. Construction, total

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11052
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PART-TIME WORK FOR MOTHERS DEFINED

Moscow TRUD in Russian 4 Jun 80 p 4

[Article by Yu. Korshunov, deputy chief of the legal division, AUCCTU: "In the Interests of Working Mothers"]

> [Text] Many readers request answers to questions about the partial workday or workweek for women with children. Such requests came, in particular, from K. Pozharskaya from Omsk, I. Sizova of Yaroslavl', V. Koptevaya from Dnepropetrovsk, and Z. Yakimok of Mogilev. Here is our reply.

Part-time work is possible for all categories of workers and at all enterprises in all sectors of the national economy. However, this type of activity is more advisable in the service, trade, and transportation areas, taking into account a large flow of customers and passengers at a given time of day or week and in certain times of the year.

To make the partial workday approach more attractive to women, the USSR Goskomtrud [State Committee for Labor and Social Problems] and the AUCCTU, in coordination with USSR Gosplan, approved the Statute on Conditions for Utilizing the Labor of Women With Children and Who are Working Part-Time (decree No. 111/8-51 dated 29 April 1980).

Part-time work (partial workday or week) can be arranged by agreement between the administration and the working woman with children when she is hired and also between the administration and the woman already on the job if, because she must care for the children, she is unable to work full time. Wages in these cases are paid in accordance with extant legislation in proportion to the time worked or depending on output.

Hiring of women with children for a partial workday or week is legalized on general bases. Here, no notation that the worker is hired part-time is made in the labor book.

Part-time conditions are mutually agreed upon by the parties: Both without a period limitation, and with any period limitation acceptable to the worker (until the child reaches a certain age, during the school year, and so forth). The work period, working hours, amount of time during the day or week, requirement for professional training or reclassification, and other conditions are stipulated in the order (instructions) for part-time hiring of women with children. It is important to note that the work and break schedule for women with children and who work part-time is established by the administration in accordance with the trade union FZMK [factory-plant and local committee] and taking the individual's desires into consideration.

Such conditions, for example, might envision reduction in the duration of the day's (shift's) work to a certain number of working hours each day of the workweek; reduction in the number of workdays in the week, while retaining the normal workday (shift) duration; reduction in the length of the day's (shift's) work to a certain number of hours, with concurrent reduction in the number of workdays in the week.

Also possible is division of the day's work into units (for instance, delivery of the morning and evening mail, sale of newspapers and magazines, and so on). When setting up the part-time work schedule, the workday (shift) length, as a rule, must be at least 4 hours and the workweek 20-24 hours (for a 5- and 6-day week, respectively). Other conditions relative to work duration may be established, however, depending on specific production conditions.

Part-time work schedules can include breaks for rest and meals or these can be omitted. However, rest and meal breaks must be provided for female part-time workers if the workday (shift) exceeds 4 hours in duration. The start and end times of this break are established by the administration in coordination with the trade union FZMK and taking the worker's desires into account.

Nursing mothers and women with children up to age one and who work part-time are given additional breaks at least every 3 hours to feed the child. Each break is at least 30 minutes in duration. Given two or more children up to age 1, a break of at least 1 hour is established. The feeding break is considered working time and compensated for at the average wage.

The following is permitted at the request of a woman with children and depending upon the duration of her workday (shift): combination of the feeding break and the regular break into one break; carrying one or concurrently two breaks for feeding the child over to the conclusion of the workday in order to leave work earlier than the time stipulated in the labor agreement.

Part-time employment does not imply any restrictions in the amount of annual leave, accumulation of longevity, and other labor rights.

Additional leave for a non-standard workday can be granted to women with children and who work part-time if the work agreement stipulates a full workday, but a full workweek is not required. The amount of this additional leave (6 or 12 days) is established by the administration upon coordination with the trade union FZMK, taking into consideration the degree of intensity of the work and the fact that it is accomplished outside normal working hours.

in work time for part-time workers is calculated both in general and in uninterrupted work longevity and in longevity by specialty, including: upon assignment of a state social insurance benefit; upon assignment of state pensions; upon payment of a lump sum remuneration or supplement to salary for length of service; upon establishment of salaries and rates for workers in education, public health, librarians, and to several other specialties, whose salaries and rates take longevity into account; upon remuneration for overall work results based on annual results; upon assignment of benefits for working in the Far North and those areas equated to the regions of the Far North, as well as in Arkhangel'skaya Oblast, the Karel'skaya ASSR, the Komi ASSR, and in other instances when extant legislation calls for certain benefits and advantages to be provided.

Cancellation of an agreement with part-time workers occurs on the basis of and following procedures contained in extant labor legislation.

7869
CSO: 1828

EDUCATION

VOCATIONAL TRAINING, GUIDANCE FOR TURKMEN STUDENTS

Moscow SHKOLA I PROIZVODSTVO in Russian No 6, Jun 80 pp 12-15

[Article by M. Aliyeva, minister of education of the Turkmen SSR: "Vocational Training and Guidance for Students in Turkmenistan Schools"]

[Text] Under the leadership of party and soviet organizations, and with the active assistance of enterprises, the family and society-at-large, public educators and pedagogical collectives in the schools of the Turkmen SSR have achieved concrete progress in their effort to improve the system of student vocational training and guidance and thereby implement the decree of the CPSU Central Committee and the USSR Council of Ministers on "Further Improvement in the Training and Education of General Educational School Students and in Preparing Them for Employment."

The material base for our vocational training program has been strengthened substantially. The republic now had 1,100 training shops with 25,700 work places. Most schools have been equipped with maintenance and service facilities. All 8-year and secondary schools located in irrigated agricultural regions have instructional-experimental areas covering a total of more than 1,000 hectares at their disposal. Many vocational training instructors are skillfully developing in their students an assortment of general-technical knowledge and skills, high levels of labor standards and practices, a knowledge of economics and a love for their work. The practical assignments the students complete in the course of their instruction in the training workshops include technical problems requiring the application of their knowledge of mathematics and physics. Vocational instruction is also seeing improved utilization of visual training aids, equipment, charts and tables, schematic drawings, models and so forth. Under the guidance of their instructors, moreover, the students themselves make many of their own training aids. Students are taught to read drawings, prepare flow sheets and work independently in accordance with them, select the necessary materials and tools, set up a work place, use time efficiently and so forth.

Great importance is attached within the republic to the organization of socially useful, productive work activities for students both during their class time and outside of class. School No 5 in the Iolotanskiy and No 6 in Khalachskiy Rayon, for example, have been conducting successful experiments for a number of years now with the raising of different varieties of cotton, vegetables and corn. Under the guidance of their vocational agriculture instructor, Honored Teacher of the Republic D. Saryyev, young naturalists at Ashkhabad's School No 14 are engaged in the cultivation of select-quality grapes and fruit trees and are experimenting with the keeping of rabbits and poultry.

We also provide in-depth vocational training in such areas as electrical engineering, metal and wood working, fruit and vegetable growing, carpet making and others. Instruction in these specialties is to be found on a well-organized basis in secondary school No 4 in Krasnovodsk, No 13 in Nebit-Dag, No 6 in Kizyl-Arvat and No 15 in Kazandzhikskiy and No 3 in Gyaurskiy Rayon and others. Thr production environment, the physical plant of the school and the desires of the students are all taken into consideration in the selection of a vocational training specialty.

Training in motor vehicle engineering, the operation of tractors and other agricultural machinery, the principles of agronomy and the mechanization of livestock farms are also widely available to advanced students. Approximately 13,000 students are learning the driver's vocation in 97 schools, 27,500 the machine operator's in 300 rural schools. During the next 2-3 years the number of schools offering these vocational training specialties will increase by another 140.

In Tashauzskaya Oblast a great deal of attention is being devoted to the training of advanced students in the agricultural machinery operator's specialty. Upon the initiative of the oblast collective farmers' council, 159 rural secondary schools are training 9th- and 10th-class students in the operation of tractors and other agricultural equipment. Kolkhozes and sovkhozes have provided the equipment and experienced machinery operators required for this purpose.

In order to strengthen the physical plant rural schools providing training for students in the motor vehicle engineering and agricultural machinery operator's specialties and to staff them with the skill specialists required, the Turkmen SSR Ministry of Education, the republic Ministry of Agriculture and the Turkmen Goskomsel'khoztekhnika Association have jointly adopted a number of resolutions on further improvement of the vocational training and education provided students in rural general educational institutions and on strengthening their technical training base.

The practical relationships between schools, enterprises, kolkhozes and sovkhozes are being strengthened and developed still more extensively. All schools have been assigned supporting enterprises and organizations. Demonstrating great concern for the schools they sponsor are the primary wool processing factory in the city of Mary, the Railroad Car Repair Plant imeni 26 Baku Commissars in the city of Kizyl-Arvat, the ship repair yard in the city of Chardzhou, the kolkhoz imeni Chkalov in Maryyskiy Rayon and the Kommunizm Kolkhoz in Khalachskiy Rayon, the Moskva and 50th Anniversary of the USSR sovkhozes in Karakumskiy Rayon, the Tedzhen sovkhoz in Tedzhenskiy Rayon and the Kolkhoz imeni Karl Marx in Chakar-Chaginskiy Rayon. They provide financial resources for the acquisition of visual training aids and machinery, supply the schools with the necessary equipment and assign production leaders as instructors for the students.

The student labor association movement has assumed truly mass proportion within the republic. We alone have more than 580 student production brigades comprising approximately 14,000 students and there are more than 3,000 hectares of land and a variety of agricultural equipment at our disposal. They raise vegetables, cotton, corn and mulberry silkworm moths and care for livestock on their farms.

Members of the production brigade at secondary school No 16 on Teze yol kolkhoz in Bayram-Aliyskiy Rayon of the Maryyskaya Oblast have been raising corn for 10 years now. Directing their work is their biology instructor, D. Shakuliyev. The brigade comprises two teams, between which socialist competition is organized. Its council maintains strict accounting and control of the production achieved and the income received, organizes exhibitions of the best specimens and presents incentive awards to students achieving good results in their work.

The kolkhoz has equipped a field facility for the brigade, where the students have their recreation, organize sports activities, conduct evening meetings devoted to the discussion of selected topics and so forth.

The student production brigade at secondary school No 8 in Karabekaul'skiy Rayon of the Chardzhouskaya Oblast, which is supervised by its biology instructor, A. Kzhorayev, enjoys a good reputation for its performance. These students raise cotton on an area of 10 hectares. Last year they gathered as much as 60 quintals per hectare of this valuable crop. For its success in its student vocational training and education program and its highly productive work, this brigade has been singled out for the Turkmenistan Lenin Komsomol Prize.

After receiving their vocational training and preparation for their working lives in the student production brigades, many rural school graduates remain on their own kolkhozes and sovkhozes to work as equipment operators, field-crop cultivators and livestock raisers.

A few years ago, the republic's first inter-school industrial-training centers were formed. There are now 13 of them. These facilities are training 13,300 advanced students in the specialties of lathe operation, weaving, carpet-making, shoemaking, driving, sewing, fitting as applied to electrical assembly and motor vehicle engineering work, cooking, industrial and food product sales and others. These industrial-training facilities have become centers in which students receive vocational guidance and orientation. At the industrial-training center in Ashkhabad, which was set up 3 years ago, 1,392 secondary school students are trained in 10 specialized fields. Well-equipped rooms, laboratories and shops have been provided for this purpose. Its supporting enterprises, the motor vehicle industrial trust, Ashpromtorg, the 40th Anniversary of the TSSR Footwear Association and the Leninskiy Rayon public catering trust, have done much in the way of developing the material training base and organizing the training process and the productive work performed at the center. The 40th Anniversary of the TSSR Footwear Association, for example, has equipped 2 shops and a room for theoretical instruction, provided 22 sewing machines and assigned 4 highly skilled workers to work with the students.

Together with enterprises and the general educational schools, the pedagogical collectives of the industrial-training centers are doing a great deal of work in the field of vocational guidance and in developing in the students an interest in working in the sphere of material production and a desire to learn the work occupations required to meet local needs. Field trips to plants and factories and meetings with members of communist labor brigades are organized for this purpose. Experimental work and technical creativity play an important role in instilling in the students an interest in and love for their work and in developing their cognitive activity.

There are a central five oblast and six rayon centers active in Turkmenistan for the republic's young naturalists. Functioning both in the schools as well as in nonacademic institutions are 1,064 clubs for young naturalists comprised of 19,600 students. Our young naturalists also actively participate in an effort to keep school grounds and kolkhoz villages in good order and in landscaping along the Karakumskiy Canal imeni V.I. Lenin. They have planted tens of thousands of ornamental and fruit tree seedlings and flowers and work to help preserve our wild and rare plants. Young naturalists from the school in Repetek, for example, gather saxaul seeds and keep watch over birds and animals in the local preserve. A friendship going back many years binds students in Maryyskaya Oblast's Iolotanskiy Rayon and scientists of the Scientific Research Institute of Cotton Culture of the Turkmen SSR Ministry of Agriculture and those of the Kizyl-Atrekskiy Rayon of the Krasnovodskaya Oblast with scientists at the subtropical plant experimental station.

Three student forestry programs have been organized within the republic. Young foresters from Secondary School No 2 in the Kushkinskiy Rayon of the Maryyskaya Oblast have been especially successful in their work in the Badkhyzskiy preserve. There are rare animals here like the onager, the argali and the Central Asian gazelle. Pistachio groves are also cultivated here. Students in the school's forestry program help preserve personnel care for the forest and the wildlife.

Also active in the schools are 732 green and 235 blue patrols. They provide active assistance to personnel of local fish service inspectorates and nature conservation societies.

The central, 5 oblast and 13 rayon and city young mechanics centers are also doing a great deal of work. Thirty-five thousand students belong to school mechanics clubs. Club members construct various models, visual training aids and mechanical toys. Each year there are organized rayon, city, oblast and republic exhibitions and competitions in which they can display their technical and mechanical creativity. Let us take note here of the successful work of the mechanics circles of school No 5 in Kizyl-Atrekskiy Rayon and No 1 in Tashauzskiy Rayon, No 14 in Ashkhabad, No 1 in Nebit-Dag and No 7 in Krasnovodsk. Young naturalists and mechanics from secondary school No 14 in Ashkhabad and No 1 in Tashauzskiy Rayon are participants in the USSR Exhibition of Achievements of the National Economy.

Many Skillful Hands clubs, bringing together more than 10,000 girls interested in traditional national styles in embroidery and carpet weaving, have been formed in the republic's schools. Student training in these national art forms has been successfully organized, for example, in School No 3 in Gyaurskiy, No 15 in Kazandzhikskiy, No 4 in Kaakhinskiy Rayon and others. For several years now, M. Mamedaliyeva, the maintenance and servicing instructor in School No 3 in Gyaurskiy Rayon, has been providing her students with enthusiastic instruction in the delicate and exquisite art of carpet weaving. She has instilled a love for this work in many of this school's girls. They are now successfully employed in the carpetmaking shops of the Turkmenkover firm and in our domestic services combines.

The movement to form labor associations composed of upper-class students during the summer vacation period has developed on a widespread basis within the republic. The summer quarter's work is being performed under the slogan "Through my work I join the ranks of my republic's workers." In addition to the students in the production brigades, tens of thousands of upper-class students are participating in the work of repair brigades and teams improving and landscaping school grounds and around villages and cities and along streets. Book, textbook and visual-training-aid repair teams are also formed in all 8-year and secondary schools.

Productive student labor in agriculture, in industrial enterprises and in the maintenance and servicing field has also become a widespread practice in recent years. Each year more than 5,000 upperclassmen go off to labor and recreation camps. The labor and recreation camp set up by the Bayram-Aliyskiy city department of public education on State Fruit Farm No 7, one of the best in the republic, has been given an incentive award. Well-organized productive labor and political-indoctrinational, mass-scale cultural and sports and health-improvement activities for the students are being successfully organized here.

The schools have improved their vocational guidance programs substantially in recent years. Many of the republic's pedagogical collectives involved in these programs rely on the assistance of local enterprises and farms, vocational and technical schools as well as the family. Student meetings with heroes of socialist labor and production leaders, field trips to enterprises and discussions dealing with the mass vocations have become a employment, many schools have set up special training methods facilities to be employed for vocational guidance purposes. Photographs of production leaders and display stands devoted to local enterprises are to be found here.

The result has been to arouse in our students a keen interest in production processes. The Tashauzskaya Oblast schools' initiative, "The Whole Class Into Production," has been taken up on a widespread basis throughout the republic. All 1977-1978 school year graduates of Kara-Kalinskiy Rayon's Secondary School No 22 are now successfully employed in various branches of the local economy: 7 in public catering enterprises, 12 in the carpet factory, 9 in the sewing shop, 8 at various construction and repair sites, 10 on the Sovkhoz imeni V.I. Lenin and 4 in transportation organizations. The same year all 50 graduates of Murgabskiy Rayon's Secondary School No 12 became equipment operators, milkers and so on. A. Akmuradova, A. Klycheva and D. Shukurgel'dyyeva, girls who became equipment operators, and G. Abdullayeva, one now a milker, are now leading kolkhoz production workers.

Managerial personnel and social organizations of enterprises, kolkhozes and local party, soviet and Komsomol groups render a great deal of assistance in finding jobs for school graduates. As if with a single voice, all 60 1977 graduates of Nebit-Dag's Secondary School No 21 expressed the desire to work in Kumdagneft' administration enterprises. For their success in student vocational education, the Kumdagneft' management presented the school collective with a commemorative certificate of merit.

All rayon and city executive committees of our soviet people's deputies have now set up vocational guidance commissions providing assistance in connection with the job-placement program for secondary-school graduates. The republic's Ministry of Education has formed an interdepartmental council on methods comprising representatives of Gosplan TSSR, the State Committee of the Lenin Young Communist League of Turkmenistan and of other interested ministries and departments to coordinate work in the student vocational guidance field.

Matters connected with improvement of student vocational training and education are systematically discussed during meetings of the collegium of the Turkmen SSR Ministry of Education. Effective measures have been taken, for example, to improve the vocational training program and strengthen the physical plant of schools in Maryyskaya, Chardzhouskaya, Tashauzskaya and other oblasts.

The Scientific Research Institute of Pedagogical Sciences of the Turkmen SSR Ministry of Education is currently engaged in studies oriented specifically toward urgent problems connected with student vocational training and education and the development of guides and other materials on methods for vocational training instructors. Institute scientists are studying problems involved in the integrated application of technical means within the vocational instruction context, the training of upper-class students to operate agricultural equipment and in the activities of student labor associations. The institute has published "Training Machine-Operating Specialists in the Schools," "Vocational Training in the

Eight-Year Rural School," "Life Preparation for Students During Their Vocational Training Course," "Organizing Student Vocational Guidance in School Shops" among other texts on methods.

The organization of vocational education depends to a great extent on the teaching staff. Over the period 1977-1979 all technical and maintenance and service instructors; production-training and motor-vehicle and agricultural-machinery operation faculty experts and student production brigade leaders underwent refresher training in courses and seminars at the republic's advanced teacher-training institute. The qualitative composition of vocational training staff, 62.5 percent of which have secondary-level pedagogical education, has improved notably. Forty percent of our vocational training instructors have received their certification, which has contributed to enhancing their selection and assignment possibilities and to increasing their skills; 344 bocational training instructors who have not yet completed their pedagogical education are enrolled in correspondence courses.

The Ashkhabad teachers' secondary specialized training school has contributed substantially to the republic's technical vocational teacher training program.

Beginning with the 1977-1978 school year, the Turkmen State Institute of Education imeni V.I. Lenin has included a Department of Vocational Education Teacher Training. At the same time, however, the important matter of specialized training for maintenance and servicing instructors remains unresolved

The achievements we have noted, however, do not indicate that all is well with the vocational training being provided the republic's students. There are, unfortunately, still schools where the level of the vocational training and education being offered does not measure up to present-day requirements. The shops and maintenance and service facilities in which training and instruction are conducted are in some instances, particularly in rural schools, only poorly equipped. Advanced students do not always have the opportunity to choose a field in which a thorough course of vocational instruction is available. Some vocational training instructors, especially those who have come by their knowledge and skills purely on the basis of long personal experience rather than of any formal training, conduct their courses on only a low methodological level and fail to achieve the required polytechnical direction in their instruction. Some school and rayon and city department of education directors are not devoting the necessary attention to vocational training and properly supervising the performance of vocational training instructors.

Guided by party and government decisions on the schools and documents issued by the Central Committee of the Communist Party of Turkmen SSR and the republic Council of Ministers, the Turkmen SSR Ministry of Education has developed and is now implementing a program of concrete measures designed to achieve consistent improvement in our student vocational training program and to provide training shops and other facilities with up-to-date equipment, raise the level of the basic and refresher training provided our vocational training instructors, supply schools with manuals and guides to instructional methods improve the work of school labor associations among other things. A more thoroughgoing program of vocational training is to be introduced in all the republic's secondary schools in the new school year. Plans call for the formation in all cities and rayons of inter-school industrial training centers for student vocational training and guidance. The practical association of schools, enterprises and vocational and technical schools in the area of student vocational training and guidance is being established on an increasingly stronger basis.

Preparations are now under way for the republic conference on science and practice, at which will be discussed the tasks involved in further improving the training, education and job preparation provided the students in our general-education schools.

In implementing the historical decisions of the 25th CPSU Congress and the 21st Congress of the Communist Party of Turkmen SSR the republic's instructional personnel are making every effort to improve the communist development of the coming generation and the training and preparation of a new shift of hard workers dedicated to the great cause of building communism.

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EDUCATION

DEVELOPING VUZ'S IN SIBERIA, FAR EAST

Moscow VESTNIK VYSSHEY SHKOLY in Russian No 6, Jun 80 pp 29-31

[Article by D. N. Kharitonov, RSFSR deputy minister of higher and secondary education: "Developing the Material Base of VUZ's in Siberia and the Far East"]

[Text] Prior to the Great October Socialist Revolution there were only four VUZ's [higher educational institutions] in the regions of Siberia and the Far East with an enrollment of 2500 students. But now as a result of building a developed socialist society in the country, which has opened up scope for the planned development of the economy, science, and culture, there are here 105 higher and 533 secondary special educational institutions, amounting to 541,000 students and 588,000 pupils.

Already during the period of the First Five-Year Plan, in 1930, a number of VUZ's were organized, for example, the Siberian Metallurgical Institute, the Irkutsk Polytechnical and Novosibirsk Engineering and Structural Institutes, the Irkutsk Institute of the National Economy, the Siberian Technological and Motor-Vehicle Highway Institutes. A new phase began after the Great Patriotic War. During the 1950's and early 1960's preference was given to organizing technical VUZ's (established at that time were the Novosibirsk Electrical Engineering, Tomsk Structural Engineering, Komsomol'sk-on-Amur Polytechnical, and Krasnoyarsk Polytechnical Institutes); at the end of the 1960's and especially in the early 1970's universities began to appear (in Krasnoyarsk, Kemerovo, Omsk, Tyumen', and Barnaul), as well as institutes of the national economy (in Novosibirsk and Khabarovsk) and the Institute of Soviet Trade (in Vladivostok). Many of these VUZ's at the present time have become major centers for training engineers, economists, physicians, pedagogues, and broad, university-type specialists.

Of course, the rapid development of a network of VUZ's in Siberia and the Far East required enormous funds, capital investments, human and material resources, the formation of staffs of professors and instructors, and the emergence of VUZ groups. Achievements in this matter became possible thanks to the constant paternal concern of the Communist Party and the Soviet government for the higher school, as well as to the active participation of the planning and financial organs, construction ministries, and the higher school administrative organs in the comprehensive solution of the problems which arose.

The impressive prospects for the development of the regions of Siberia and the Far East during the next five or ten years are already confronting the higher school with urgent tasks connected with the further growth and improvement of all aspects of its activity. These tasks have been defined in the decree of the CPSU Central Committee and the USSR Council of Ministers concerning the higher school. In particular, measures have been provided for improving the material base of VUZ's which are located to the east of the Urals.

Unconditionally, the successful solution of the problems posed depend, to a large extent, on the initiative and creative approach of the VUZ groups, as well as the concentration on this most important thrust of our own efforts, the funds received, and the material resources. The RSFSR Ministry of Higher Educational Institutions has worked out and is implementing a number of measures providing for the further improvement of the educational, scientific-research, and organizational activity, as well as the development of the VUZ's material and technical base. We must emphasize that fulfilling the higher school's principal task--improving the quality of the training and ideological-political education of young specialists--is, in no small degree, dependent upon the status of its material base, on its timely development, the over-all construction of educational laboratory buildings, VUZ-type scientific institutions, student dormitories and dining-rooms, and apartment houses.

In connection with this, we ascribe great importance to the proposals for developing the material base, as presented by the VUZ's. It must be noted that most of the proposals received have been worked out extremely carefully and testify to the fact that the groups of many VUZ's and tekhnikums well understand the importance of the tasks confronting them.

Based on the proposals, the RSFSR Ministry of Higher Educational Institutions is drawing up draft plans for the further development and strengthening of the material and technical base, computed up to 1990. Particular attention in them was paid to the qualitative transformation of the VUZ's of Siberia and the Far East; proposals have been worked out regarding the over-all construction of a base for each educational institution.

The total volume of construction outlined for the ten-year period looks extremely impressive. During these years for the 43 educational institutions of our ministry which are located in the regions of Western and Eastern Siberia and in the Far East it has been proposed to build dozens of educational-laboratory buildings, buildings for scientific-research institutes, libraries and sports facilities, along with up-to-date student dormitories, dining-rooms, and apartment houses.

It is natural that, in order to carry out the intended construction, considerable allocations are required.

Understandably, seeking out all the necessary funds is not a simple matter. We need to integrate the efforts of the RSFSR Ministry of Higher Educational Institutions, the sector ministries and departments, and the planning and financial organs of the Russian Federation which are concerned with the development of the VUZ's in the regions under consideration. And the principal role in this matter, taking into consideration the all-state importance of the task, must, in our opinion, be played by USSR Gosplan, its sector divisions, and, first of all, by the division of culture and education. We consider that it would be feasible, in particular, to examine the possibility of altering the proportions which have taken shape in the distribution of capital investments through the "Education" sector in order to increase their apportionment for the VUZ's of Siberia and the Far East.

It would be wrong, however, to expect that USSR Gosplan will solve all the problems confronting the RSFSR higher schools in the matter of developing a material base for the educational institutions. A great deal in this large and complex matter depends upon our ministry and VUZ's, on their initiative and ability to find additional possibilities and reserves, to correctly and rationally utilize the allocations and material resources being received.

No small role in financing VUZ construction belongs to the sector ministries. During the 10th Five-Year Plan the centralized plan of the capital investments of the RSFSR Ministry of Higher Educational Institutions was increased 1.5-fold by means of funds received from the sector ministries and the departments of the USSR and RSFSR. This is a poor indicator; however, the proportion of participation in this matter by the VUZ's of Siberia and the Far East are still too small. Subsequently, the contribution of the sector ministries must increase; this task was emphasized in the decree of the CPSU Central Committee and the USSR Council of Ministers regarding higher schools.

In essence, the sector ministries and departments are directly concerned with the development of VUZ's and with strengthening their material and technical base. But the initiative for establishing such contacts must be manifested by the higher school, supporting it by specific proposals and calculations which evoke interest among the industrial enterprises and departments. Business connections between the VUZ's and sectors of the national economy can be firm when they are built upon a mutually advantageous, bilateral basis.

In our view, further improvement is required by the structure of the connections between the Ministry of Higher Educational Institutions and the sector ministries, between the VUZ's and the enterprises of industry, transport, construction, and agriculture. We must more energetically develop and reinforce business contacts, direct ties, and negotiations among the

VUZ's, on the one hand, and between the enterprises and sectors, on the other hand.

With this goal in mind it would be feasible to consider ways of improving the practice which has taken shape of distributing young specialists. Unfortunately, up to the present time in distributing graduates many VUZ's allow their unjustified dispersion among numerous consumers, and this reduces the interest of sectors of the national economy in rendering material and financial aid to educational institutions. Thus, in accordance with the distribution plan the graduates of the Novosibirsk Structural Engineering Institute are sent to 45 different departments and organizations. Moreover, the principal consumer--the USSR Ministry of Construction--receives somewhat more than six percent of the graduates. It is natural that such a situation reduces the institute's possibilities for providing grounds for its own requests for the proportional participation of this ministry in developing a material and technical base.

In our opinion it is feasible to provide for the distribution of graduates of specific VUZ's or groups of VUZ's to appropriate sector ministries and departments. Furthermore, in the first place, we should keep in mind VUZ's which are carrying out a targeted training, if we may put it that way, of personnel for a specific sector (for example, construction, petroleum, mining, machine-building, textile, light, and food-processing industries, and others).

There is also another fruitful trend in developing direct ties between higher schools and production: the retraining of specialists at faculties for improving skills at faculties which exist at the VUZ's. As a rule, these FPK's (Faculties for Improving Skills) do not have their own material bases, and they operate in the buildings of the VUZ's, while the students of these faculties occupy space in the student dormitories. During the period when the FPK's were being organized such a situation was completely permissable and justifiable. Subsequently, however, the respective sectors of the national economy have probably been required to compensate all this by means of their participation in construction and by the technical supply of the material bases of the VUZ's. We think that, considering the increasing role of the FPK in personnel retraining, it would be feasible to have the sector ministries and departments provide in their capital-investment plans construction for the FPK's of special educational-laboratory buildings, supplied with up-to-date equipment, as well as dormitories for the students.

An increasingly notable role in financing and strengthening the material and technical base of the higher schools is being played by non-centralized funds, or profits being received from the excess of revenues over expenditures when the VUZ's carry out scientific research by economic agreements. By means of these funds many VUZ's are constructing various modest-sized but extremely necessary facilities, acquiring equipment, instruments, furniture, computer equipment, including the most up-to-date, expensive computers. In recent years the utilization of such profits in construction has furnished up to 10 percent of the volume of the equipment acquired and has exceeded the centralized sources of financing three-fold. We consider that this is an essential financial reserve which allows us to speed up the rate of construction and the technical equipping of VUZ's.

However, in most of the VUZ's of Siberia and the Far East research by economic agreements is still not very great, and the profits received by them are much too small to play a notable role in financing. The VUZ's can rectify this situation by concentrating their efforts on conducting large-scale scientific research studies.

In the matter of improving the capital construction, development, and strengthening of the material base of VUZ's and tekhnikums much also depends upon improving the organizational and planning operations both in the RSFSR Ministry of Higher Educational Institutions and in the educational institutions themselves. With this goal in mind we are promulgating a number of measures increasing the effectiveness of capital investments: the continuous reduction of the number of newly begun and simultaneously underway structural facilities, the concentration of funds on the most important start-up and carry-over construction projects, a reduction of the amounts of incomplete construction, the adoption of counter plans and two-year continuous planning.

Nevertheless, we well understand that this is only one aspect of the matter. It is important to attain such a situation whereby the allocated funds are assimilated each year by all the educational institutions. In Siberia and in the Far East this is not always assured. Some VUZ's do not assimilate the funds received and disrupt the time periods for introducing facilities into operation.

In 1979, for example, Omsk University, Chita Polytechnical Institute, and Blagoveshchensk Technological Institute did not assure the fulfillment of their plans. The Khabarovsk and Irkutsk Institutes of the National Economy did not put educational-laboratory buildings into operation. Construction work was extremely unsatisfactory on the student dormitories of Tomsk University and the Tomsk Institute of Automated Control Systems and Radio Electronics.

Many reasons and explanations may be found for this. But the principal reason is the lack of know-how, and at times even the lack of desire on the part of the VUZ's to concern themselves with construction, as this important but difficult business requires. In this matter the VUZ's do not have the right to be merely passive observers. In conjunction with the supervisors of the construction organizations they ought to manifest constant efforts to solve all the organizational problems; they should not be afraid of the difficulties but instead should seek out and find correct solutions and actively assist the builders infulfilling the plans and production schedules.

The higher schools have great possibilities and the necessary experience for this purpose. Suffice it to mention the fine work done by the student construction detachments on the overwhelming majority of VUZ construction projects, the development and implementation of counter plans, as well as the organization of operative staffs at start-up and very important construction projects. In utilizing practical experience, in activating the work of rectors' offices and the technical control services we see one of the ways of improving the business of capital construction.

Nor must we omit mention of the necessity to improve the organization of planning and research operations for developing the material base of VUZ's which are located in Siberia and the Far East. There are now 11 organizations which are engaged in planning VUZ's in these regions. It would seem that a specialized planning institute--a Giprovus--would be fundamental in this matter. But it carries out only 25 percent of the amount of the work. The principal reason for this is the remoteness of the Giprovuz from the given regions, which causes no small difficulties in solving the problems which arise in planning and in coordinating the planning solutions; it is reflected in the quality of the plans and the organization of authors' inspection. In our opinion, a branch of the Giprovuz should be organized in one of the VUZ centers of Siberia such as Krasnoyarsk or Irkutsk.

Such, in our opinion, are some of the problems whose solution will facilitate speeding up the rate of developing and strengthening the material and technical base of VUZ's and tekhnikums in Siberia and in the Far East.

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2384
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EDUCATION

VOCATIONAL-TECHNICAL EDUCATION IN GEORGIA EXAMINED

Tbilisi ZARYA VOSTOKA in Russian 2 Jul 80 p 1

[Article: "What Kind of Worker Is Needed for the Five-Year Plan?: A Conversation between Comrade E. A. Shevarnadze and Active Workers in Georgia's Vocational-Technical Education System"]

[Text] As a start let's mention some facts and figures which were cited at the meeting. Approximately half a million highly skilled workers have received training over the forty years of Georgia's system of vocational-technical education. It has provided 118,000 young workers for the national economy during the Tenth Five-Year Plan alone. It was first among analogous systems of the Union republics to fully convert to training workers with a secondary education. A high award won by it for successes in the All-Union Socialist Competition for fulfilling and overfulfilling the 1979 plan tasks was the carry-over Red Banner of the USSR State Committee for Vocational-Technical Education and the Central Committee of the Union of Workers in State Institutions.

At the meeting between Candidate Member of the CPSU Central Committee Politburo and First Secretary of the Communist Party of Georgia Central Committee E. A. Shevarnadze and the active workers in the republic's system of vocational-technical education the discussion was not only about achievements. The Chairman of the Georgian SSR State Committee for Vocational-Technical Education, S. T. Rigvava, the directors of the schools, and the ministers concentrated their attention on problems of further improving the training of highly skilled workers.

Also appearing at this meeting were the First Secretary of the Tbilisi Party Gorkom T. N. Menteshashvili, First Secretary of the Komsomol of Georgia Central Committee Zh. K. Shartava.

Comrade E. A. Shevarnadze delivered a speech.

It was noted at the meeting that the scientific and technical revolution is abruptly changing the nature and appearance of modern-day production. To train a skilled worker means to provide him with a supply of such skills which would facilitate the rapid mastery of machinery and technology, of progressive labor devices and which would assist him to adapt himself to solve the increasingly complicated production and psychological tasks.

All this obligates the groups at the schools to constantly improve the contents and methods of instruction, to achieve an organic unity of general-education and applied disciplines. This is all the more important in the light of the tasks of further developing the national economy of the country and the republic , as outlined by the 25th CPSU Congress and the 25th Congress of the Communist Party of Georgia.

For the 11th and following five-year plans in this republic an extensive program has been outlined for the construction of unique industrial complexes and the conversion of agriculture to an industrial basis. The implementation of such a program can only be accomplished by highly skilled workers.

Georgia's system of vocational-technical education is confronted with the task of solving serious problems. The schools will be training workers in more than 20 new specialties, in particular, computer operators, assemblers of micro-schematics and semiconductor instruments, fitter-installers of farm equipment, construction vehicles and machinery, etc.

Despite the development and strengthening of the material and technical base of the schools, there still remains a great deal to be done here. The existing base provides for the production training of only 45 percent of the pupils, while the remainder are compelled to study their practical work under conditions which are unsuitable for this. The schools suffer from an acute lack of sufficient training workshops and special study-rooms.

And far from all the ministries and departments whose enterprises are basic for the vocational-technical schools manifest the necessary concern for the training of personnel in the mass occupations for their own systems.

Mention was made at the meeting of the responsibility of managers at a number of ministries and departments who have not implemented the resolutions of the republic's directive organs, as a result of which funds allocated for the construction of new schools have been very poorly utilized.

The training-production bases are necessary not only for training workers in mass occupations but also for forming the working habits of schoolchildren and their vocational and social orientation. Therefore, the educational organs must utilize these bases more actively, implementing vocational and social orientation from the elementary grades on. This will allow us to increase the inflow of schoolchildren into vocational-technial schools after graduation from the eight-year schools.

In solving the problems of training and educating personnel for the mass occupations, it is necessary at the same time to be concerned about their most effective utilization and strengthening on the production line, including the graduates of vocational-technical schools. Workers of the

Georgian SSR State Committee for Vocational-Technical Education must intensively study and adapt in their own practice the experience of Leningraders, Sverdlovskians, and others who have developed and implemented an effective system for keeping young workers on the production line. A considerable effect may be provided by introducing the personnel distribution of the graduates of vocational-technical schools and technical schools.

The vocational-technical schools are training the workers of tomorrow. Consequently, their production training must be conducted on the most up-to-date equipment, and their production practice must be carried on at the most progressive enterprises. We must attract to the guidance of practical work the leading specialists, the best teachers, and the foremost production men. It is very important that the groups at the schools maintain a constant connection with their graduates and attentively heed the reports of workers and supervisors of shops and sections regarding the quality of training of the new generation, taking all this into consideration in the process of instruction.

The most important task of the present day is to further improve the work on the vocational orientation of the young people. The present-day worker is not only an excellent specialist but also a person with a wide horizon, a high intellectual level, and a fundamental culture. To aid in the education of such a worker, the vocational-technical schools have been called upon by the scientific institutions, creative unions of writers, artists, composers, and cinematographers. Further improvement of the system of vocational-technical education requires serious scientific research. It is necessary to more extensively attract scientists, sociologists, psychologists, and economists to this important matter. For without their help it is difficult to achieve progress in training highly skilled workers.

The system of vocational-technical education has a great future. During the last few years its authority has grown immeasurably. But in order for it to become even higher, the level of the general-educational training of graduates of vocational-technical schools must not be any different from that possessed by the graduates of schools. Here a great deal depends on the pedagogical staffs of the schools, their responsibility for a matter of state importance which has been entrusted to them--training the workers of tomorrow.

Georgia's system of vocational-technical education is preparing to greet the 26th CPSU Congress and the 26th Congress of the Communist Party of Georgia with new successes. And there is no doubt that, as was stated at the meeting, the many-thousand-fold group of pedagogues, experts in on-the-job production training, and all the workers in the system will apply all their efforts to further improve the education and training of a worthy new shift of the working class.

This meeting was attended by the Secretary of the Central Committee of the Communist Party of Georgia, G. N. Yenukidze, the Deputy Chairman of the Georgian SSR Council of Ministers and Chairman of the republic's Gosplan, D. L. Kartvelishvili, and by Section Chiefs of the Central Committee of the Communist Party of Georgia, O. Sh. Kadzhaya and E.A. Sekhniashvili.

2384
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CENSUS TOTALS ON EDUCATION, BY RESIDENCE, SEX , LEVEL ACHIEVED

Moscow VESTNIK STATISTIKI in Russian No 6, Jun 80 pp 41-62

[Text] The No 2, 1980 issue of VESTNIK STATISTIKI published the basic results of the 1979 census.

This and subsequent issues contain detailed data on the level of education of the population, its nationality composition, family number and size, and so on.

Level of Education in the USSR, Union and Autonomous Republics, Krays and Oblasts

1. USSR and Union Republic Population Distribution by Education (1,000 people)

	(1)	(2) в том числе					(8)
		(3)	(4)	(5)	(6)	(7)	
Urban and Rural Population							
USSR	139 087	14 826	3 233	23 439	45 099	52 488	34 373
RSFSR	75 609	8 312	1 782	13 639	22 020	29 856	27 979
Ukrainian SSR	26 793	2 786	538	4 482	9 568	9 419	10 685
Belorussian SSR	4 806	512	110	826	1 676	1 682	2 214
Uzbek SSR	7 021	632	177	806	3 019	2 387	3 016

Key:

1. All those with higher and (complete or incomplete) secondary educations
2. Including:
3. Higher
4. Incomplete higher
5. Secondary special
6. Secondary general
7. Incomplete secondary
8. Those 10 years old or older with a primary education
9. USSR urban and rural population

Kazakh SSR	7 221	679	152	1 162	2 408	2 820	3 007
Georgian SSR	2 895	425	79	414	1 212	765	901
Azerbaijan SSR	3 042	301	93	374	1 185	1 089	1 200
Lithuanian SSR	1 [illegible]	174	47	296	420	662	907
Moldavian SSR	1 846	169	34	269	610	767	887
Latvian SSR	1 390	160	45	284	402	519	594
Kirgiz SSR	1 660	170	36	219	622	578	701
Tadzhik SSR	1 530	130	31	172	584	618	801
Armenian SSR	1 724	219	41	223	662	549	524
Turkmen SSR	1 216	104	20	147	464	481	517
Estonian SSR	796	103	20	170	227	298	407
Urban Population							
USSR	99 290	12 779	2 841	18 312	32 507	32 791	27 143
RSFSR	38 534	7 406	1 602	11 082	17 834	20 608	15 072
Ukrainian SSR	18 933	2 439	502	3 539	6 938	5 515	4 896
Belorussian SSR	4 322	430	93	622	1 240	937	791
Uzbek SSR	3 390	427	140	506	1 296	1 023	1 096
Kazakh SSR	4 473	524	123	819	1 454	1 553	1 300
Georgian SSR	1 692	344	65	247	710	326	342
Azerbaijan SSR	1 847	247	82	260	714	544	524
Lithuanian SSR	1 170	154	40	222	326	425	405
Moldavian SSR	953	129	27	173	331	293	222
Latvian SSR	1 054	141	39	207	333	332	336
Kirgiz SSR	768	100	26	131	278	233	218
Tadzhik SSR	666	86	23	110	218	220	238
Armenian SSR	1 227	195	46	169	458	329	283
Turkmen SSR	654	73	16	110	213	240	242
Estonian SSR	607	80	17	116	193	201	220
Rural Population							
USSR	39 797	2 047	394	3 127	12 532	19 697	27 227
RSFSR	17 073	904	180	2 557	4 186	9 248	12 007
Ukrainian SSR	7 860	327	56	943	2 630	3 904	5 789
Belorussian SSR	1 494	82	17	204	496	745	1 424
Uzbek SSR	3 631	203	37	301	1 724	1 364	1 930
Kazakh SSR	2 748	155	29	343	954	1 267	1 647
Georgian SSR	1 203	81	14	167	502	439	559
Azerbaijan SSR	1 195	54	11	114	471	545	676

Lithuanian SSR	429	20	7	74	94	234	502
Moldavian SSR	892	40	7	92	279	474	665
Latvian SSR	336	19	6	57	67	187	258
Kirgiz SSR	537	50	10	88	344	345	483
Tadzhik SSR	869	44	8	62	366	389	566
Armenian SSR	497	24	5	54	194	220	239
Turkmen SSR	362	29	4	37	251	241	306
Estonian SSR	179	13	3	34	34	95	178

2. USSR and Union Republic Levels of Education in 1959, 1970 and 1979 (per 1,000 people age 10 or older)

	(1)	(2) в том числе					(8)
		(3)	(4)	(5)	(6)	(7)	
Urban and Rural Population							
USSR							
both sexes							
1959 г.	361	23	11	48	61	218	310
1970 г.	483	42	13	68	119	241	293
1979 г.	638	68	15	107	207	241	249
men							
1959 г.	392	27	12	48	63	242	377
1970 г.	522	48	15	65	125	269	328
1979 г.	685	75	16	98	224	272	254
women							
1959 г.	338	20	10	49	60	199	258
1970 г.	452	37	12	71	114	218	265
1979 г.	597	62	14	115	192	214	246
RSFSR							
both sexes							
1959 г.	361	24	11	53	58	215	325
1970 г.	489	44	13	73	108	251	296
1979 г.	645	71	15	116	188	255	239
men							
1959 г.	384	29	11	52	56	236	409
1970 г.	521	49	15	67	109	281	344
1979 г.	691	77	16	102	202	294	251
women							
1959 г.	345	22	11	53	59	200	261
1970 г.	463	39	12	78	108	226	258
1979 г.	606	66	14	128	176	222	229

Key:

1. Higher and (complete and incomplete) secondary
2. Including:
3. Higher
4. Incomplete higher
5. Secondary special
6. Secondary general
7. Incomplete secondary
8. Primary

Ukrainian SSR							
both sexes							
1959 г.	373	21	10	45	64	233	299
1970 г.	494	40	12	67	139	236	278
1979 г.	630	65	13	105	225	222	252
men							
1959 г.	419	25	10	48	68	268	356
1970 г.	549	47	14	67	151	270	301
1979 г.	691	74	15	100	252	250	246
women							
1959 г.	330	18	9	44	61	207	256
1970 г.	451	34	10	68	129	210	260
1979 г.	582	58	12	110	203	199	256
Belorussian SSR							
both sexes							
1959 г.	304	15	10	39	53	187	343
1970 г.	440	35	12	63	114	216	331
1979 г	594	63	14	102	207	208	274
men							
1959 г.	333	18	10	37	55	213	416
1970 г.	484	42	13	58	119	252	361
1979 г.	648	70	14	92	227	245	278
women							
1959 г.	282	13	9	41	51	168	200
1970 г.	404	30	11	67	110	186	304
1979 г.	549	57	13	111	191	177	270
Uzbek SSR							
both sexes							
1959 г.	354	18	12	32	67	225	211
1970 г.	458	36	16	44	141	221	273
1979 г.	639	58	16	73	273	217	274
men							
1959 г.	411	24	15	36	89	247	225
1970 г.	504	46	20	48	170	220	275
1979 г.	680	70	19	80	295	216	260
women							
1959 г.	303	14	9	28	47	205	199
1970 г.	415	27	12	39	115	222	271
1979 г.	599	46	13	67	255	218	288
Kazakh SSR							
both sexes							
1959 г.	347	17	9	44	56	221	290
1970 г.	468	35	12	63	111	247	303
1979 г.	633	60	13	102	211	247	263
men							
1959 г.	389	21	10	45	63	250	333
1970 г.	502	41	13	59	117	272	327
1979 г.	670	65	13	91	224	277	267
women							
1959 г.	311	13	9	43	51	195	253
1970 г.	439	30	11	67	106	225	280
1979 г.	598	54	13	112	199	220	261

Georgian SSR							
both sexes							
1959 г.	448	48	13	55	137	195	217
1970 г.	554	73	19	69	210	183	251
1979 г.	698	103	19	100	292	184	217
men							
1959 г.	469	58	15	50	131	215	247
1970 г.	580	83	21	67	206	203	263
1979 г.	730	112	21	96	300	201	212
women							
1959 г.	432	41	12	58	143	178	193
1970 г.	530	65	17	70	213	165	241
1979 г.	671	94	17	103	286	171	222
Azerbaijan SSR							
both sexes							
1959 г.	400	30	13	44	82	231	222
1970 г.	471	44	17	57	144	209	272
1979 г.	652	65	20	80	254	233	257
men							
1959 г.	469	38	17	49	99	266	243
1970 г.	538	57	22	66	173	220	271
1979 г.	706	80	23	90	283	230	240
women							
1959 г.	340	22	10	39	68	201	204
1970 г.	411	33	13	48	118	199	273
1979 г.	601	51	16	71	227	236	273
Lithuanian SSR							
both sexes							
1959 г.	232	16	9	30	41	136	378
1970 г.	382	35	14	58	78	197	371
1979 г.	558	61	16	103	147	231	317
men							
1959 г.	237	19	9	27	40	142	427
1970 г.	401	38	14	51	72	226	398
1979 г.	594	63	16	93	148	274	317
women							
1959 г.	228	14	9	32	42	131	339
1970 г.	365	32	14	64	83	172	347
1979 г.	527	59	16	112	146	194	317
Moldavian SSR							
both sexes							
1959 г.	264	14	8	31	35	176	320
1970 г.	397	29	11	47	83	227	321
1979 г.	572	52	11	82	189	238	275
men							
1959 г.	300	16	9	29	35	211	383
1970 г.	432	34	12	42	88	256	355
1979 г.	614	57	10	73	206	268	284
women							
1959 г.	234	12	7	32	35	148	270
1970 г.	367	26	10	50	79	202	293
1979 г.	535	49	10	90	175	211	267

Latvian SSR							
both sexes							
1959 r.	431	25	14	57	75	260	342
1970 r.	517	46	21	35	119	246	300
1979 r.	645	74	21	122	187	241	275
men							
1959 r.	447	27	15	60	66	279	373
1970 r.	542	50	22	85	107	278	317
1979 r.	673	78	22	120	178	275	274
women							
1959 r.	419	23	14	54	82	246	318
1970 r.	496	43	19	85	128	221	287
1979 r.	621	71	20	124	194	212	277
Kirgiz SSR							
both sexes							
1959 r.	342	19	11	40	60	212	239
1970 r.	452	35	12	54	121	230	284
1979 r.	614	57	14	84	238	221	268
men							
1959 r.	395	23	14	43	75	240	270
1970 r.	492	42	13	54	135	248	302
1979 r.	655	62	13	81	258	241	267
women							
1959 r.	296	15	9	38	47	187	213
1970 r.	417	29	11	55	108	214	268
1979 r.	577	53	14	87	220	203	269
Tadzhik SSR							
both sexes							
1959 r.	325	15	9	34	48	219	223
1970 r.	420	29	12	40	112	227	290
1979 r.	578	49	12	64	220	233	303
men							
1959 r.	381	19	13	40	64	245	243
1970 r.	471	39	17	46	135	234	293
1979 r.	625	64	15	77	234	235	292
women							
1959 r.	275	12	6	29	33	195	203
1970 r.	374	20	8	36	90	220	287
1979 r.	534	35	9	53	206	231	314
Armenian SSR							
both sexes							
1959 r.	445	39	15	39	115	237	248
1970 r.	516	57	22	49	187	201	267
1979 r.	713	91	21	92	282	227	217
men							
1959 r.	479	47	17	37	114	264	276
1970 r.	540	66	24	49	183	218	281
1979 r.	737	100	23	90	277	247	217
women							
1959 r.	416	32	13	41	116	214	224
1970 r.	494	50	20	49	190	185	254
1979 r.	692	82	20	94	287	209	216

Turkmen SSR							
both sexes							
1959 г.	387	19	10	40	55	283	204
1970 г.	475	33	12	51	117	262	268
1979 г.	620	53	11	75	236	245	279
men							
1959 г.	431	24	12	44	70	281	227
1970 г.	523	44	15	59	135	270	272
1979 г.	660	70	12	86	242	250	269
women							
1959 г.	347	14	7	37	42	247	184
1970 г.	430	23	8	44	100	255	265
1979 г.	582	37	9	64	231	241	288
Estonian SSR							
both sexes							
1959 г.	386	25	13	58	78	214	469
1970 г.	506	47	15	81	122	241	393
1979 г.	630	74	16	120	182	238	326
men							
1959 г.	390	29	14	54	65	228	488
1970 г.	527	52	17	79	108	271	395
1979 г.	653	78	16	115	172	272	317
women							
1959 г.	383	22	13	58	88	202	456
1970 г.	489	43	14	82	134	216	392
1979 г.	611	71	16	124	190	210	333

Urban Population							
USSR							
both sexes							
1959 г.	469	40	17	68	92	252	298
1970 г.	592	62	20	91	156	263	250
1979 г.	723	93	21	133	237	239	198
men							
1959 г.	487	45	18	66	89	289	358
1970 г.	621	70	22	85	155	289	277
1979 г.	760	101	23	120	247	269	200
women							
1959 г.	455	35	16	69	95	240	252
1970 г.	568	56	17	96	157	242	227
1979 г.	693	86	19	145	229	214	196
RSFSR							
both sexes							
1959 г.	458	39	16	69	84	250	312
1970 г.	585	61	18	92	140	274	257
1979 г.	720	91	20	136	219	254	197
men							
1959 г.	470	44	17	67	78	264	[illegible]
1970 г.	611	68	20	85	137	301	293
1979 г.	757	98	21	121	229	288	203
women							
1959 г.	449	35	15	70	89	240	258
1970 г.	564	55	16	98	143	252	228
1979 г.	690	86	18	149	212	225	191

Ukrainian SSR							
both sexes							
1959 г.	496	38	16	69	105	268	279
1970 г.	622	63	19	96	190	254	224
1979 г.	735	95	20	137	269	214	190
men							
1959 г.	526	44	18	70	103	291	327
1970 г.	663	73	22	94	194	280	238
1979 г.	776	107	22	128	283	236	185
women							
1959 г.	473	34	14	68	107	250	241
1970 г.	587	55	16	98	187	231	212
1979 г.	701	85	17	145	258	196	194
Belorussian SSR							
both sexes							
1959 г.	504	37	20	76	107	264	297
1970 г.	645	66	22	102	189	266	233
1979 г.	760	96	21	142	284	215	181
men							
1959 г.	518	43	21	70	105	279	347
1970 г.	673	75	24	95	184	295	248
1979 г.	789	108	22	126	289	244	181
women							
1959 г.	494	33	18	80	109	254	280
1970 г.	620	57	20	109	192	242	220
1979 г.	736	90	21	156	280	189	181
Uzbek SSR							
both sexes							
1959 г.	450	40	23	57	99	231	244
1970 г.	555	62	29	73	167	224	244
1979 г.	703	89	29	105	268	212	225
men							
1959 г.	490	47	26	56	114	247	269
1970 г.	594	69	34	71	185	235	253
1979 г.	740	94	33	99	290	224	215
women							
1959 г.	415	34	20	57	86	218	224
1970 г.	520	55	24	75	151	215	236
1979 г.	668	83	25	110	249	201	235
Kazakh SSR							
both sexes							
1959 г.	422	27	14	57	77	247	289
1970 г.	558	51	17	83	137	270	266
1979 г.	703	82	19	129	229	244	214
men							
1959 г.	449	31	14	56	80	268	339
1970 г.	585	57	18	77	138	295	292
1979 г.	733	90	19	115	233	276	220
women							
1959 г.	399	23	14	58	74	230	247
1970 г.	534	45	16	89	136	248	242
1979 г.	676	76	19	141	224	216	208

Georgian SSR							
both sexes							
1959 г.	583	86	23	71	203	200	199
1970 г.	677	121	29	85	272	170	200
1979 г.	793	161	30	116	333	153	161
men							
1959 г.	597	100	26	62	189	220	227
1970 г.	697	134	33	79	261	190	207
1979 г.	811	174	33	106	332	166	158
women							
1959 г.	572	74	21	78	214	185	177
1970 г.	660	110	27	90	280	153	194
1979 г.	778	151	28	124	334	141	163
Azerbaijan SSR							
both sexes							
1969 г.	476	50	19	60	113	234	230
1970 г.	565	70	27	74	183	211	238
1979 г.	727	97	32	103	281	214	206
men							
1959 г.	526	60	23	58	124	261	260
1970 г.	617	83	33	75	201	225	244
1979 г.	772	110	37	102	304	219	193
women							
1959 г.	434	41	16	61	104	212	206
1970 г.	517	57	22	73	168	197	232
1979 г.	684	85	28	103	259	209	219
Lithuanian SSR							
both sexes							
1959 г.	406	36	19	54	84	213	354
1970 г.	544	61	22	84	128	249	306
1979 г.	684	90	23	130	190	251	237
men							
1959 г.	417	42	21	49	83	222	390
1970 г.	564	66	22	75	119	282	324
1979 г.	714	94	23	116	185	296	237
women							
1959 г.	396	30	17	57	85	207	319
1970 г.	525	56	22	92	135	220	289
1979 г.	659	87	23	142	195	212	238
Moldavian SSR							
both sexes							
1959 г.	454	42	19	68	98	227	288
1970 г.	595	66	25	90	163	254	239
1979 г.	747	101	21	135	260	230	174
men							
1959 г.	475	48	22	61	94	250	332
1970 г.	626	75	27	81	160	283	256
1979 г.	773	112	21	121	259	260	178
women							
1959 г.	439	38	18	73	101	209	252
1970 г.	575	59	22	98	166	230	225
1979 г.	725	93	20	148	260	204	171

Latvian SSR							
both sexes							
1959 г.	538	39	20	76	106	294	303
1970 г.	614	65	29	106	159	258	260
1979 г.	718	96	27	141	225	226	229
men							
1959 г.	557	43	23	81	94	316	327
1970 г.	681	71	32	107	144	287	269
1979 г.	744	103	29	139	217	236	225
women							
1959 г.	525	36	19	72	120	278	286
1970 г.	591	60	26	104	172	229	253
1979 г.	697	91	24	142	238	202	232
Kirgiz SSR							
both sexes							
1959 г.	449	36	18	64	92	239	258
1970 г.	565	58	21	83	156	247	245
1979 г.	710	92	24	121	257	216	202
men							
1959 г.	482	41	20	62	103	256	298
1970 г.	589	64	22	77	162	264	271
1979 г.	744	94	23	112	276	239	203
women							
1959 г.	422	32	17	64	84	225	224
1970 г.	540	53	20	88	152	233	223
1979 г.	680	91	24	130	240	193	201
Tadzhik SSR							
both sexes							
1959 г.	419	34	17	60	85	223	255
1970 г.	521	51	22	71	143	234	261
1979 г.	668	86	23	110	219	230	240
men							
1959 г.	461	40	21	57	101	242	285
1970 г.	566	59	28	66	166	247	270
1979 г.	712	93	27	104	242	246	232
women							
1959 г.	382	29	15	62	70	206	229
1970 г.	479	44	17	75	121	222	252
1979 г.	627	80	20	116	196	215	247
Armenian SSR							
both sexes							
1959 г.	534	63	24	51	159	237	232
1970 г.	604	82	31	61	236	194	233
1979 г.	775	123	29	107	308	206	180
men							
1959 г.	551	71	26	44	151	259	261
1970 г.	620	91	32	58	227	212	245
1979 г.	789	132	31	101	295	230	182
women							
1959 г.	520	56	23	57	166	218	206
1970 г.	588	75	20	63	244	177	221
1979 г.	763	115	25	112	320	188	178

Turkmen SSR							
both sexes							
1959 г.	438	31	14	65	76	252	244
1970 г.	535	48	18	79	131	259	257
1979 г.	671	76	17	113	219	246	248
men							
1959 г.	477	38	16	62	90	273	270
1970 г.	582	58	21	80	148	275	263
1979 г.	711	89	17	114	230	261	238
women							
1959 г.	405	26	13	67	65	234	216
1970 г.	490	40	14	78	114	244	251
1979 г.	633	64	16	112	208	233	258
Estonian SSR							
both sexes							
1959 г.	503	38	19	72	114	260	392
1970 г.	601	63	20	95	160	263	322
1979 г.	700	92	20	134	222	232	263
men							
1959 г.	508	44	21	69	95	279	411
1970 г.	624	71	22	95	141	295	322
1979 г.	720	98	20	129	211	262	257
women							
1959 г.	500	34	18	74	128	246	377
1970 г.	583	57	18	96	175	237	322
1979 г.	683	87	19	138	232	207	269
Rural Population							
USSR							
both sexes							
1959 г.	256	7	5	29	31	184	321
1970 г.	332	14	5	38	67	210	354
1979 г.	492	25	5	63	155	244	337
men							
1959 г.	298	9	5	31	37	216	388
1970 г.	378	18	5	34	80	241	402
1979 г.	559	31	5	60	184	279	344
women							
1959 г.	225	6	4	29	26	160	264
1970 г.	296	11	4	39	57	185	316
1979 г.	436	21	5	66	130	214	330
RSFSR							
both sexes							
1959 г.	248	8	5	34	27	174	339
1970 г.	320	14	4	40	52	210	365
1979 г.	476	25	5	71	117	258	334
men							
1959 г.	279	10	5	33	29	202	442
1970 г.	359	16	5	34	59	245	436
1979 г.	543	28	5	60	141	309	360
women							
1959 г.	224	6	5	34	25	154	265
1970 г.	290	12	4	46	46	182	310
1979 г.	419	23	5	80	96	215	314

Ukrainian SSR							
both sexes							
1959 г.	267	6	4	25	20	203	317
1970 г.	337	11	3	33	75	215	344
1979 г.	470	20	3	56	157	234	346
men							
1959 г.	321	8	4	27	35	247	383
1970 г.	399	13	4	31	95	256	385
1979 г.	556	22	3	56	204	272	342
women							
1959 г.	228	5	4	24	24	171	269
1970 г.	291	10	3	34	60	184	315
1979 г.	404	18	3	58	121	204	349
Belorussian SSR							
both sexes							
1959 г.	212	5	5	23	27	152	365
1970 г.	279	12	4	32	55	176	407
1979 г.	398	22	4	55	117	200	383
men							
1959 г.	249	7	5	22	31	184	447
1970 г.	327	14	4	28	64	217	459
1979 г.	478	24	4	51	152	247	395
women							
1959 г.	185	4	5	23	25	128	304
1970 г.	241	10	4	35	48	144	367
1979 г.	334	20	5	58	80	162	372
Uzbek SSR							
both sexes							
1959 г.	300	7	5	18	49	221	192
1970 г.	391	18	7	24	123	219	293
1979 г.	588	33	6	49	279	221	313
men							
1959 г.	369	11	9	26	75	248	201
1970 г.	444	31	11	33	159	210	290
1979 г.	633	51	8	64	299	211	296
women							
1959 г.	238	3	3	11	24	197	184
1970 г.	343	7	4	15	90	227	295
1979 г.	546	16	4	34	261	231	329
Kazakh SSR							
both sexes							
1959 г.	285	9	6	33	39	198	290
1970 г.	365	17	6	40	81	221	345
1979 г.	544	30	6	68	189	251	326
men							
1959 г.	339	12	7	35	49	236	329
1970 г.	405	23	8	39	92	245	368
1979 г.	595	35	6	62	213	279	323
women							
1959 г.	236	6	4	30	31	165	257
1970 г.	329	12	5	41	72	199	324
1979 г.	496	27	5	73	167	224	329

Georgian SSR							
both sexes							
1959 г.	343	19	6	42	86	190	231
1970 г.	433	27	8	53	150	195	301
1979 г.	597	40	7	83	249	218	277
men							
1959 г.	369	24	7	40	86	212	263
1970 г.	467	33	10	56	153	215	317
1979 г.	645	49	8	86	266	236	268
women							
1959 г.	321	14	5	44	86	172	205
1970 г.	403	21	6	51	147	178	287
1979 г.	556	33	6	81	234	202	285
Azerbaijan SSR							
both sexes							
1959 г.	322	9	6	28	51	228	213
1970 г.	360	14	6	36	97	207	313
1979 г.	561	26	5	53	221	256	318
men							
1959 г.	412	15	10	41	74	272	225
1970 г.	440	25	10	54	138	213	306
1979 г.	624	42	7	75	257	243	298
women							
1959 г.	245	3	3	18	31	190	202
1970 г.	290	4	3	20	62	201	319
1979 г.	507	11	3	35	190	268	335
Lithuanian SSR							
both sexes							
1959 г.	122	4	3	15	13	87	393
1970 г.	214	8	5	31	26	144	439
1979 г.	372	18	6	64	82	202	435
men							
1959 г.	126	4	3	13	13	93	444
1970 г.	229	9	4	25	23	168	477
1979 г.	420	19	5	59	93	244	433
women							
1959 г.	118	3	4	16	13	82	351
1970 г.	201	8	5	35	29	124	408
1979 г.	330	18	6	68	72	166	436
Moldavian SSR							
both sexes							
1959 г.	204	5	4	19	15	161	330
1970 г.	296	11	4	25	43	213	362
1979 г.	457	20	4	47	143	243	341
1959 г.	246	6	3	19	17	199	398
1970 г.	333	13	4	22	51	243	406
1979 г.	512	22	4	42	171	273	353
1959 г.	170	4	4	20	13	129	275
1970 г.	264	9	4	26	37	188	327
1979 г.	409	19	4	51	118	217	330

Latvian SSR							
both sexes							
1959 г.	293	7	7	32	30	217	391
1970 г.	351	14	7	49	49	232	368
1979 г.	488	27	8	84	98	271	375
men							
1959 г.	310	8	6	34	29	233	430
1970 г.	373	14	6	46	44	263	399
1979 г.	527	26	7	80	98	316	376
women							
1959 г.	279	6	7	31	31	204	361
1970 г.	333	15	7	52	53	206	343
1979 г.	456	28	9	87	98	234	374
Kirgiz SSR							
both sexes							
1959 г.	282	9	8	28	41	196	229
1970 г.	372	19	6	34	96	217	311
1979 г.	545	33	6	57	224	225	315
men							
1959 г.	347	12	11	33	59	212	255
1970 г.	425	26	8	38	117	236	323
1979 г.	594	39	7	60	245	243	310
women							
1959 г.	227	6	5	23	27	166	207
1970 г.	325	12	5	31	77	200	300
1979 г.	501	27	6	55	205	208	318
Tadzhik SSR							
both sexes							
1959 г.	276	5	5	20	20	217	206
1970 г.	351	14	6	20	90	221	310
1979 г.	524	27	5	37	220	235	341
men							
1959 г.	341	8	9	31	46	247	223
1970 г.	405	25	9	32	114	225	309
1979 г.	571	46	7	61	229	228	328
women							
1959 г.	217	2	2	10	14	189	189
1970 г.	300	4	2	8	68	218	311
1979 г.	478	8	2	15	213	240	364
Armenian SSR							
both sexes							
1959 г.	348	13	5	27	67	236	266
1970 г.	372	16	7	31	106	212	324
1979 г.	594	28	6	65	232	263	287
men							
1959 г.	400	20	8	30	73	260	293
1970 г.	407	25	9	35	111	227	341
1979 г.	638	38	8	71	243	278	283
women							
1959 г.	305	8	3	24	62	208	242
1970 г.	341	9	5	26	102	199	306
1979 г.	555	19	5	59	223	249	289

Turkmen SSR							
both sexes							
1959 г.	340	8	5	18	36	273	167
1970 г.	412	17	5	22	103	265	250
1979 г.	569	29	5	37	254	244	309
men							
1959 г.	390	14	9	28	52	287	182
1970 г.	459	30	9	35	122	263	281
1979 г.	608	50	7	58	254	239	300
women							
1959 г.	294	2	2	9	22	259	164
1970 г.	370	5	2	10	86	267	279
1979 г.	532	10	2	18	253	249	317
Estonian SSR							
both sexes							
1959 г.	235	8	6	36	32	153	570
1970 г.	328	18	6	53	52	199	396
1979 г.	470	34	8	88	89	251	469
men							
1959 г.	239	10	5	34	27	163	587
1970 г.	348	18	6	49	47	228	530
1979 г.	502	35	7	83	85	292	462
women							
1959 г.	232	7	6	37	35	147	557
1970 г.	312	17	6	57	57	175	522
1979 г.	443	32	8	93	94	216	484

3. Education Levels in the USSR, Republics, Krays and Oblasts (per 1,000 people age 10 or older)

	(1) [illegible]	(2) в том числе					(8) [illegible]
		(3) [illegible]	(4) [illegible]	(5) [illegible]	(6) [illegible]	(7) [illegible]	
(9) СССР	638	68	15	107	207	241	249
(10) РСФСР	646	71	15	118	188	253	239
(11) Алтайский край	588	47	11	104	166	260	264
(12) Горно-Алтайская автономная область	564	45	13	99	147	260	291
(13) Краснодарский край	600	56	11	103	181	249	257
(14) Адыгейская автономная область	595	56	10	107	180	242	254
(15) Красноярский край	646	56	13	120	185	272	245
(16) Хакасская автономная область	623	43	9	114	172	285	258
(17) Таймырский (Долгано-Ненецкий) автономный округ	754	71	10	181	244	248	186
(18) Эвенкийский автономный округ	676	67	11	173	176	249	241
(19) Приморский край	709	80	16	138	202	273	211
(20) Ставропольский край	591	58	12	106	179	236	255
(21) Карачаево-Черкесская автономная область	577	55	11	90	193	228	258
(22) Хабаровский край	716	78	17	144	193	284	204
(23) Еврейская автономная область	652	46	6	124	158	318	246

[Key at end of table]

(24)	Амурская область	671	63	13	135	183	277	242
(25)	Архангельская область	663	55	10	126	167	305	238
(26)	Ненецкий автономный округ	673	56	7	156	16[illegible]	[illegible]6	235
(27)	Астраханская область	635	63	13	137	172	250	242
(28)	Белгородская область	561	46	9	101	181	224	266
(29)	Брянская область	567	43	9	98	175	242	276
(30)	Владимирская область	633	54	10	116	180	273	263
(31)	Волгоградская область	633	60	14	117	207	235	236
(32)	Вологодская область	607	46	10	115	163	273	255
(33)	Воронежская область	585	63	16	94	197	215	260
(34)	Горьковская область	613	59	13	107	178	256	255
(35)	Ивановская область	624	52	14	112	176	270	264
(36)	Иркутская область	671	63	16	122	187	283	237
(37)	Усть-Ордынский Бурятский автономный округ	536	38	7	73	140	278	332
(38)	Калининградская область	717	81	15	153	211	257	210
(39)	Калининская область	595	53	11	118	157	256	269
(40)	Калужская область	632	67	10	124	177	254	247
(41)	Камчатская область	793	104	12	194	212	271	173
(42)	Корякский автономный округ	718	76	10	185	185	262	228
(43)	Кемеровская область	628	48	10	118	176	276	247
(44)	Кировская область	585	45	9	104	167	260	259
(45)	Костромская область	572	49	12	119	140	252	275
(46)	Куйбышевская область	670	73	17	127	207	246	224
(47)	Курганская область	573	43	9	98	158	265	26[illegible]
(48)	Курская область	557	44	11	92	174	236	284
(49)	г. Ленинград[1]	797	159	37	147	237	217	156
(50)	Ленинградская область	659	55	9	128	189	278	244
(51)	Липецкая область	584	49	10	107	176	242	260
(52)	Магаданская область	801	91	11	192	252	255	168
(53)	Чукотский автономный округ	804	94	11	208	257	234	164
(54)	г. Москва[1]	791	197	36	134	220	204	152
(55)	Московская область	699	95	16	136	195	257	213
(56)	Мурманская область	763	95	10	166	234	258	187
(57)	Новгородская область	582	49	8	114	157	254	266
(58)	Новосибирская область	642	71	18	117	167	269	237
(59)	Омская область	629	58	17	108	193	253	251
(60)	Оренбургская область	612	47	11	111	178	265	263
(61)	Орловская область	593	52	11	101	174	255	263
(62)	Пензенская область	571	50	11	99	171	240	280
(63)	Пермская область	626	49	12	106	169	290	255
(64)	Коми-Пермяцкий автономный округ	487	23	7	83	79	295	330
(65)	Псковская область	554	49	9	107	162	227	270
(66)	Ростовская область	637	68	17	110	196	246	237
(67)	Рязанская область	594	51	13	110	164	256	264
(68)	Саратовская область	638	68	18	113	183	256	245
(69)	Сахалинская область	728	68	8	157	222	273	198
(70)	Свердловская область	663	59	13	117	197	277	225
(71)	Смоленская область	600	50	12	116	159	263	255
(72)	Тамбовская область	548	46	10	98	156	238	268
(73)	Томская область	655	72	29	119	182	253	230
(74)	Тульская область	620	58	11	113	169	269	259
(75)	Тюменская область	672	59	13	140	193	267	230
(76)	Ханты-Мансийский автономный округ	776	68	7	175	252	274	181
(77)	Ямало-Ненецкий автономный округ	751	73	8	187	233	250	179
(78)	Ульяновская область	586	52	12	104	175	243	261
(79)	Челябинская область	649	55	12	120	189	273	239
(80)	Читинская область	633	58	9	120	172	274	264
(81)	Агинский Бурятский автономный округ	584	48	7	81	171	277	290
(82)	Ярославская область	626	58	13	119	174	262	253
(83)	Башкирская АССР	606	44	11	92	187	272	268
(84)	Бурятская АССР	644	65	15	115	185	264	245
(85)	Дагестанская АССР	522	46	14	79	138	245	335
(86)	Кабардино-Балкарская АССР	626	64	13	105	199	245	250
(87)	Калмыцкая АССР	589	49	13	97	180	250	292

(88) Карельская АССР	658	59	12	133	163	291	250
(89) Коми АССР	719	56	10	145	202	306	216
(90) Марийская АССР	614	55	15	99	181	264	256
(91) Мордовская АССР	587	48	14	88	227	210	261
(92) Северо-Осетинская АССР	643	85	26	120	204	208	240
(93) Татарская АССР	637	58	15	90	214	260	246
(94) Тувинская АССР	588	46	11	101	174	256	300
(95) Удмуртская АССР	635	55	12	97	203	268	248
(96) Чечено-Ингушская АССР	542	45	12	80	160	245	291
(97) Чувашская АССР	618	45	10	91	190	252	260
(98) Якутская АССР	703	70	12	156	215	250	217
(99) УКРАИНСКАЯ ССР	**630**	**65**	**13**	**105**	**225**	**222**	**252**
(100) Винницкая область	553	41	8	84	195	225	290
(101) Волынская область	539	41	7	90	212	189	287
(102) Ворошиловградская область	644	55	11	110	224	244	235
(103) Днепропетровская область	682	73	15	129	241	224	218
(104) Донецкая область	669	62	11	128	228	240	230
(105) Житомирская область	584	42	7	90	213	232	271
(106) Закарпатская область	634	44	9	85	240	256	299
(107) Запорожская область	670	68	12	112	241	237	229
(108) Ивано-Франковская область	544	45	10	83	183	223	315
(109) г. Киев	836	193	41	140	315	147	127
(110) Киевская область	601	50	8	91	227	225	267
(111) Кировоградская область	585	47	8	103	223	204	270
(112) Крымская область	706	83	14	134	230	245	219
(113) Львовская область	613	68	17	98	222	208	293
(114) Николаевская область	650	62	10	109	241	228	254
(115) Одесская область	657	83	23	109	229	213	234
(116) Полтавская область	605	52	10	104	222	217	286
(117) Ровенская область	540	41	9	82	208	200	287
(118) Сумская область	574	46	8	93	211	216	278
(119) Тернопольская область	513	39	8	83	176	207	332
(120) Харьковская область	679	97	23	102	241	216	218
(121) Херсонская область	631	57	9	108	221	236	257
(122) Хмельницкая область	555	41	8	81	212	213	294
(123) Черкасская область	581	49	7	98	207	220	272
(124) Черниговская область	555	44	6	84	188	233	293
(125) Черновицкая область	572	48	10	81	197	236	269
(126) БЕЛОРУССКАЯ ССР	**594**	**63**	**14**	**102**	**207**	**208**	**274**
(127) Брестская область	532	46	8	93	189	196	296
(128) Витебская область	579	50	10	105	186	228	286
(129) Гомельская область	581	52	11	100	207	211	277
(130) Гродненская область	507	47	9	94	172	185	326
(131) г. Минск[1]	827	163	42	132	309	181	139
(132) Минская область	545	45	7	88	185	220	313
(133) Могилевская область	600	49	11	106	206	228	272
(134) УЗБЕКСКАЯ ССР	**630**	**58**	**16**	**73**	**275**	**217**	**274**
(135) Андижанская область	629	39	9	58	314	209	292
(136) Бухарская область	655	51	11	77	292	224	276
(137) Джизакская область	615	44	9	66	276	220	315
(138) Кашкадарьинская область	649	44	6	58	308	233	287
(139) Наманганская область	617	37	6	49	340	185	280
(140) Самаркандская область	619	48	23	69	272	207	284
(141) Сурхандарьинская область	563	41	5	56	258	203	318
(142) Сырдарьинская область	608	47	1.	84	227	239	312
(143) г. Ташкент[1]	760	143	53	114	262	188	182
(144) Ташкентская область	622	49	13	85	233	242	287
(145) Ферганская область	618	43	9	67	272	227	289
(146) Хорезмская область	616	44	6	55	276	235	269
(147) Каракалпакская АССР	603	48	6	77	233	239	277

(148) **КАЗАХСКАЯ ССР**	**633**	**60**	**13**	**102**	**211**	**247**	**263**
(149) Актюбинская область	624	48	12	93	209	262	268
(150) г. Алма-Ата[1]	770	165	44	127	247	187	160
(151) Алма-Атинская область	595	42	9	84	218	242	281
(152) Восточно-Казахстанская область	611	52	11	100	189	259	260
(153) Гурьевская область	611	50	8	94	241	218	283
(154) Джамбулская область	624	57	15	96	215	241	261
(155) Джезказганская область	659	60	9	116	219	255	259
(156) Карагандинская область	684	72	18	113	234	247	233
(157) Кзыл-Ординская область	647	75	9	99	264	200	251
(158) Кокчетавская область	584	37	7	98	168	274	301
(159) Кустанайская область	605	39	8	100	175	274	292
(160) Мангышлакская область	748	70	7	133	296	242	188
(161) Павлодарская область	647	46	11	107	193	290	266
(162) Северо-Казахстанская область	589	40	9	103	153	284	293
(163) Семипалатинская область	614	57	13	102	212	230	262
(164) Талды-Курганская область	580	43	7	95	203	232	287
(165) Тургайская область	628	46	8	102	208	264	280
(166) Уральская область	612	51	12	91	190	268	278
(167) Целиноградская область	632	48	14	109	201	260	276
(168) Чимкентская область	603	52	10	84	227	230	291
(169) **ГРУЗИНСКАЯ ССР**	**608**	**103**	**19**	**100**	**292**	**184**	**217**
(170) г. Тбилиси[1]	825	227	46	93	324	135	139
(171) Районы республиканского подчинения	662	65	11	104	290	192	239
(172) Абхазская АССР	671	79	15	102	253	222	237
(173) Аджарская АССР	673	75	13	90	280	215	238
(174) Юго-Осетинская автономная область	621	97	22	72	240	190	240
(175) **АЗЕРБАЙДЖАНСКАЯ ССР**	**652**	**65**	**20**	**80**	**254**	**233**	**257**
(176) г. Баку[1]	767	127	51	107	278	204	177
(177) Районы республиканского подчинения	607	40	8	70	243	246	289
(178) Нахичеванская АССР	634	48	13	63	277	233	280
(179) Нагорно-Карабахская автономная область	613	49	12	85	235	232	260
(180) **ЛИТОВСКАЯ ССР**	**558**	**61**	**16**	**103**	**147**	**231**	**317**
(181) г. Вильнюс	761	141	37	135	236	212	182
(182) **МОЛДАВСКАЯ ССР**	**572**	**52**	**11**	**82**	**189**	**238**	**275**
(183) г. Кишинев[1]	827	163	40	141	298	185	125
(184) **ЛАТВИЙСКАЯ ССР**	**648**	**74**	**21**	**122**	**187**	**241**	**275**
(185) г. Рига	758	127	36	144	258	193	197
(186) **КИРГИЗСКАЯ ССР**	**614**	**57**	**14**	**84**	**238**	**221**	**288**
(187) г. Фрунзе	770	137	41	128	270	194	162
(188) Районы республиканского подчинения	575	40	9	84	186	256	291
(189) Иссык-Кульская область	593	53	11	81	211	237	279
(190) Нарынская область	580	49	7	63	238	223	292
(191) Ошская область	584	38	7	69	263	207	291
(192) **ТАДЖИКСКАЯ ССР**	**578**	**49**	**12**	**64**	**220**	**233**	**303**
(193) г. Душанбе[1]	714	122	40	122	214	216	205
(194) Районы республиканского подчинения	533	32	6	53	199	243	347
(195) Кулябская область	549	34	8	51	223	233	344
(196) Курган-Тюбинская область	512	29	4	45	201	233	351
(197) Ленинабадская область	588	42	9	62	238	237	280
(198) Горно-Бадахшанская автономная область	619	55	6	60	295	203	288
(199) **АРМЯНСКАЯ ССР**	**713**	**91**	**21**	**92**	**282**	**227**	**217**
(200) г. Ереван[1]	808	169	42	101	308	188	154
(201) **ТУРКМЕНСКАЯ ССР**	**620**	**53**	**11**	**75**	**236**	**245**	**279**
(202) г. Ашхабад[1]	736	133	38	133	219	213	200
(203) Ашхабадская область	614	35	6	48	271	254	299
(204) Красноводская область	634	50	8	94	234	248	277
(205) Марыйская область	594	39	5	62	246	242	290
(206) Ташаузская область	573	34	4	56	216	263	307
(207) Чарджоуская область	612	48	9	77	232	246	279
(208) **ЭСТОНСКАЯ ССР**	**630**	**74**	**16**	**120**	**182**	**238**	**326**
(209) г. Таллин[1]	755	124	24	145	252	210	214

Key [to Tables 3 and 4]:

1. Higher and (complete or incomplete secondary)
2. Including:
3. Higher
4. Incomplete higher
5. Secondary special
6. Secondary general
7. Incomplete secondary
8. Primary
9. USSR
10. RSFSR
11. Altayskiy Kray
12. Gorno-Altayskaya Autonomous Oblast
13. Krasnodarskiy Kray
14. Adygeyskaya Autonomous Oblast
15. Krasnoyarskiy Kray
16. Khakasskaya Autonomous Oblast
17. Taymyrskiy (Dolgano-Nenetskiy) Autonomous Okrug
18. Evenkiyskiy Autonomous Okrug
19. Primorskiy Kray
20. Stavropol'skiy Kray
21. Karachayevo-Cherkesskaya Autonomous Oblast
22. Khabarovskiy Kray
23. Jewish Autonomous Oblast
24. Amurskaya Oblast
25. Arkhangel'skaya Oblast
26. Nenetskiy Autonomous Okrug
27. Astrakhanskaya Oblast
28. Belgorodskaya Oblast
29. Bryanskaya Oblast
30. Vladimirskaya Oblast
31. Volgogradskaya Oblast
32. Vologodskaya Oblast
33. Voronezhskaya Oblast
34. Gor'kovskaya Oblast
35. Ivanovskaya Oblast
36. Irkutskaya Oblast
37. Ust'-Ordynskiy Buryatskiy Autonomous Okrug
38. Kaliningradskaya Oblast
39. Kalininskaya Oblast
40. Kaluzhskaya Oblast
41. Kamchatskaya Oblast
42. Koryakskiy Autonomous Okrug
43. Kemerovskaya Oblast
44. Kirovskaya Oblast
45. Kostromskaya Oblast
46. Kuybyshevskaya Oblast
47. Kurganskaya Oblast
48. Kurskaya Oblast
49. Leningrad
50. Leningradskaya Oblast
51. Lipetskaya Oblast
52. Magadanskaya Oblast
53. Chukotskiy Autonomous Okrug
54. Moscow
55. Moscow Oblast
56. Murmanskaya Oblast
57. Novgorodskaya Oblast
58. Novosibirskaya Oblast
59. Omskaya Oblast
60. Orenburgskaya Oblast
61. Orlovskaya Oblast
62. Penzenskaya Oblast
63. Permskaya Oblast
64. Komi-Permyatskiy Autonomous Okrug
65. Pskovskaya Oblast
66. Rostovskaya Oblast
67. Ryazanskaya Oblast
68. Saratovskaya Oblast
69. Sakhalinskaya Oblast
70. Sverdlovskaya Oblast
71. Smolenskaya Oblast
72. Tambovskaya Oblast
73. Tomskaya Oblast
74. Tul'skaya Oblast
75. Tyumenskaya Oblast
76. Khanty-Mansiyskiy Autonomous Okrug
77. Yamalo-Nenetskiy Autonomous Okrug
78. Ul'yanovskaya Oblast
79. Chelyabinskaya Oblast
80. Chitinskaya Oblast
81. Aginskiy Buryatskiy Autonomous Okrug
82. Yaroslavskaya Oblast
83. Bashkirskaya ASSR
84. Buryatskaya ASSR
85. Dagestanskaya ASSR
86. Kabardino-Balkarskaya ASSR
87. Kalmytskaya ASSR
88. Karel'skaya ASSR
89. Komi ASSR

90. Mariyskaya ASSR
91. Mordovskaya ASSR
92. Severo-Osetinskaya ASSR
93. Tatarskaya ASSR
94. Tuvinskaya ASSR
95. Udmurtskaya ASSR
96. Checheno-Ingushskaya ASSR
97. Chuvashskaya ASSR
98. Yakutskaya ASSR
99. Ukrainian SSR
100. Vinnitskaya Oblast
101. Volynskaya Oblast
102. Voroshilovgradskaya Oblast
103. Dnepropetrovskaya Oblast
104. Donetskaya Oblast
105. Zhitomirskaya Oblast
106. Zakarpatskaya Oblast
107. Zaporozhskaya Oblast
108. Ivano-Frankovskaya Oblast
109. Kiev
110. Kiyevskaya Oblast
111. Kirovskaya Oblast
112. Krynskaya Oblast
113. L'vovskaya Oblast
114. Nikolayevskaya Oblast
115. Odesskaya Oblast
116. Poltavskaya Oblast
117. Rovenskaya Oblast
118. Sumskaya Oblast
119. Ternopol'skaya Oblast
120. Khar'kovskaya Oblast
121. Khersonskaya Oblast
122. Khmel'nitskaya Oblast
123. Cherkasskaya Oblast
124. Chernigovskaya Oblast
125. Chernovitskaya Oblast
126. Belorussian SSR
127. Brestskaya Oblast
128. Vitebskaya Oblast
129. Gomel'skaya Oblast
130. Grodnenskaya Oblast
131. Minsk
132. Minskaya Oblast
133. Mogilevskaya Oblast
134. Uzbek SSR
135. Andizhanskaya Oblast
136. Bukharskaya Oblast
137. Dzhizakskaya Oblast
138. Kashkadar'inskaya Oblast
139. Namanganskaya Oblast
140. Samarkandskaya Oblast
141. Surkhandar'inskaya Oblast
142. Syrdar'inskaya Oblast
143. Tashkent
144. Tashkentskaya Oblast
145. Ferganskaya Oblast
146. Khorezmskaya Oblast
147. Karakalpakskaya ASSR
148. Kazakh SSR
149. Aktyubinskaya Oblast
150. Alma-Ata
151. Alma-Atinskaya Oblast
152. Vostochno-Kazakhstanskaya Oblast
153. Gur'yevskaya Oblast
154. Dzhambulskaya Oblast
155. Dzhezkazganskaya Oblast
156. Karagandinskaya Oblast
157. Kzyl-Ordinskaya Oblast
158. Kokchetavskaya Oblast
159. Kustanayskaya Oblast
160. Mangyshlakskaya Oblast
161. Pavlodarskaya Oblast
162. Severo-Kazakhstanskaya Oblast
163. Semipalatinskaya Oblast
164. Taldy-Kurganskaya Oblast
165. Turgayskaya Oblast
166. Ural'skaya Oblast
167. Tselinogradskaya Oblast
168. Chimkentskaya Oblast
169. Georgian SSR
170. Tbilisi
171. Rayons of republic subordination
172. Abkhazskaya ASSR
173. Adzharskaya ASSR
174. Yugo-Osetinskaya Autonomous Oblast
175. Azerbaijan SSR
176. Baku
177. Rayons of republic subordination
178. Nakhichevanskaya ASSR
179. Nagorno-Karabakhskaya Autonomous Oblast
180. Lithuanian SSR
181. Vil'nyus
182. Moldavian SSR
183. Kishinev
184. Latvian SSR

185. Riga
186. Kirgiz SSR
187. Frunze
188. Rayons of republic subordination
189. Issyk-Kul'skaya Oblast
190. Narynskaya Oblast
191. Oshskaya Oblast
192. Tadzhik SSR
193. Dushanbe
194. Rayons of republic subordination
195. Kulyabskaya Oblast
196. Kurgan-Tyubinskaya Oblast
197. Leninabadskaya Oblast
198. Gorno-Badakhshanskaya Autonomous Oblast
199. Armenian SSR
200. Yerevan
201. Turkmen SSR
202. Ashkhabad
203. Ashkhabadskaya Oblast
204. Krasnovodskaya Oblast
205. Maryyskaya Oblast
206. Tashauzskaya Oblast
207. Chardzhouskaya Oblast
208. Estonian SSR
209. Tallin

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entries with a superscript (1) include population centers subordinate to the city soviet

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4. Educational Level of Those Employed in the USSR, Republics, Krays and Oblasts (per 1,000 people employed)

	(1) Высшее и среднее (полное и неполное)	(2) в том числе (3) высшее	(4) незаконченное высшее	(5) среднее специальное	(6) среднее общее	(7) неполное среднее	(8) Начальное
(9) СССР	**805**	**100**	**11**	**156**	**276**	**262**	**163**
(10) РСФСР	**803**	**101**	**12**	**164**	**243**	**283**	**167**
(11) Алтайский край	745	70	9	151	218	297	212
(12) Горно-Алтайская автономная область	721	69	10	148	193	301	227
(13) Краснодарский край	781	83	10	148	250	290	186
(14) Адыгейская автономная область	786	85	10	160	255	276	177
(15) Красноярский край	788	81	10	168	231	298	179
(16) Хакасская автономная область	771	63	9	162	224	313	193
(17) Таймырский (Долгано-Ненецкий) автономный округ	868	90	12	228	292	246	107
(18) Эвенкийский автономный округ	818	91	14	231	225	257	157
(19) Приморский край	844	111	10	185	239	299	135
(20) Ставропольский край	758	84	10	155	241	268	195
(21) Карачаево-Черкесская автономная область	749	85	13	137	273	241	186
(22) Хабаровский край	850	109	11	194	227	309	128
(23) Еврейская автономная область	799	66	7	170	201	355	170
(24) Амурская область	811	90	9	183	221	308	165
(25) Архангельская область	826	79	9	174	217	347	153
(26) Ненецкий автономный округ	831	79	9	212	215	316	143
(27) Астраханская область	776	91	10	197	221	257	183
(28) Белгородская область	763	72	10	156	265	260	203
(29) Брянская область	744	66	8	149	246	275	215
(30) Владимирская область	790	76	9	162	239	304	186
(31) Волгоградская область	812	89	11	169	281	262	160
(32) Вологодская область	785	68	9	167	226	315	186
(33) Воронежская область	782	97	12	142	281	250	186
(34) Горьковская область	776	85	10	151	239	291	193
(35) Ивановская область	785	74	8	159	230	314	191

(36) Иркутская область	806	89	11	167	228	311	165
(37) Усть-Ордынский Бурятский автономный округ	700	62	10	111	206	311	252
(38) Калининградская область	833	108	11	198	243	273	143
(39) Калининская область	768	77	9	171	210	301	202
(40) Калужская область	798	96	9	176	236	281	173
(41) Камчатская область	900	132	11	243	251	263	86
(42) Корякский автономный округ	854	100	12	243	240	259	118
(43) Кемеровская область	783	70	8	169	228	308	184
(44) Кировская область	756	66	9	150	228	303	207
(45) Костромская область	738	73	9	173	184	299	225
(46) Куйбышевская область	825	102	11	176	266	270	152
(47) Курганская область	748	66	8	146	214	311	216
(48) Курская область	741	68	9	138	247	279	221
(49) г. Ленинград[1]	904	209	22	191	263	217	84
(50) Ленинградская область	799	75	9	172	242	301	174
(51) Липецкая область	772	75	10	162	244	281	195
(52) Магаданская область	905	113	12	234	296	250	82
(53) Чукотский автономный округ	918	116	13	253	309	227	69
(54) г. Москва[1]	905	254	25	171	250	205	81
(55) Московская область	840	128	14	181	241	276	137
(56) Мурманская область	886	122	9	207	284	264	101
(57) Новгородская область	758	72	8	162	215	301	207
(58) Новосибирская область	789	104	11	165	203	306	178
(59) Омская область	774	87	11	155	241	280	189
(60) Оренбургская область	778	70	10	162	242	294	191
(61) Орловская область	768	78	10	145	235	300	201
(62) Пензенская область	749	77	10	147	232	283	214
(63) Пермская область	785	71	9	150	220	335	184
(64) Коми-Пермяцкий автономный округ	664	38	10	131	115	370	274
(65) Псковская область	737	75	7	158	226	271	220
(66) Ростовская область	803	99	12	157	258	277	167
(67) Рязанская область	782	78	9	164	224	307	190
(68) Саратовская область	803	99	12	162	235	295	171
(69) Сахалинская область	847	90	9	202	269	277	124
(70) Свердловская область	819	83	9	162	255	310	154
(71) Смоленская область	785	75	9	170	214	317	187
(72) Тамбовская область	744	72	9	152	222	289	210
(73) Томская область	791	106	15	170	206	294	175
(74) Тульская область	778	84	8	160	221	305	193
(75) Тюменская область	818	83	9	191	242	293	156
(76) Ханты-Мансийский автономный округ	885	85	9	213	301	277	102
(77) Ямало-Ненецкий автономный округ	869	93	10	234	280	252	99
(78) Ульяновская область	758	78	10	151	236	283	202
(79) Челябинская область	804	80	9	171	214	300	168
(80) Читинская область	777	85	8	168	216	300	189
(81) Агинский Бурятский автономный округ	770	76	10	121	235	308	192
(82) Ярославская область	788	83	9	167	229	300	182
(83) Башкирская АССР	780	68	10	138	258	306	190
(84) Бурятская АССР	795	97	12	164	233	289	168
(85) Дагестанская АССР	673	80	11	131	200	251	255
(86) Кабардино-Балкарская АССР	799	100	12	159	273	255	164
(87) Калмыцкая АССР	727	74	12	143	235	263	214
(88) Карельская АССР	792	82	10	181	201	318	180
(89) Коми АССР	845	75	9	190	218	323	135
(90) Марийская АССР	790	83	10	146	244	307	178
(91) Мордовская АССР	774	76	13	135	328	222	188
(92) Северо-Осетинская АССР	801	128	17	177	258	221	160
(93) Татарская АССР	815	86	11	132	294	292	162
(94) Тувинская АССР	737	68	11	148	228	282	208
(95) Удмуртская АССР	803	81	9	138	281	294	170
(96) Чечено-Ингушская АССР	681	73	11	126	223	248	211
(97) Чувашская АССР	814	68	9	136	271	330	159
(98) Якутская АССР	848	97	13	212	276	250	117

(99) **УКРАИНСКАЯ ССР**	**813**	**96**	**10**	**154**	**312**	**241**	**159**
(100) Винницкая область	756	64	7	129	290	266	208
(101) Волынская область	721	64	8	138	312	199	218
(102) Ворошиловградская область	827	83	9	162	314	259	149
(103) Днепропетровская область	856	105	11	186	324	230	125
(104) Донецкая область	838	91	9	183	307	248	141
(105) Житомирская область	784	63	7	137	319	258	181
(106) Закарпатская область	795	63	10	121	331	270	179
(107) Запорожская область	830	97	10	157	328	247	140
(108) Ивано-Франковская область	734	71	9	129	266	259	216
(109) г. Киев	942	249	22	177	365	129	49
(110) Киевская область	809	75	7	136	334	257	168
(111) Кировоградская область	810	73	8	158	337	234	162
(112) Крымская область	850	111	10	179	291	259	132
(113) Львовская область	788	103	11	147	302	225	184
(114) Николаевская область	829	89	9	155	336	240	149
(115) Одесская область	804	118	13	153	287	233	157
(116) Полтавская область	833	79	9	159	336	250	147
(117) Ровенская область	711	64	7	125	292	223	218
(118) Сумская область	784	70	8	142	320	244	186
(119) Тернопольская область	725	63	8	133	266	255	236
(120) Харьковская область	856	139	14	146	316	241	196
(121) Херсонская область	794	80	8	152	298	236	174
(122) Хмельницкая область	764	64	8	125	322	245	205
(123) Черкасская область	800	75	7	149	314	255	174
(124) Черниговская область	773	66	6	129	288	284	200
(125) Черновицкая область	741	72	10	121	272	266	191
(126) **БЕЛОРУССКАЯ ССР**	**763**	**95**	**10**	**151**	**284**	**223**	**198**
(127) Брестская область	692	71	8	139	264	210	239
(128) Витебская область	762	77	9	158	260	258	207
(129) Гомельская область	[illegible]	80	10	150	296	224	199
(130) Гродненская область	[illegible]	73	8	145	248	195	267
(131) г. Минск[1]	918	214	20	168	344	172	72
(132) Минская область	734	70	8	134	277	245	230
(133) Могилевская область	[illegible]	75	9	160	291	253	185
(134) **УЗБЕКСКАЯ ССР**	**848**	**96**	**13**	**120**	**413**	**206**	**120**
(135) Андижанская область	856	68	10	97	503	178	116
(136) Бухарская область	881	83	12	123	436	227	97
(137) Джизакская область	833	73	11	108	428	213	137
(138) Кашкадарьинская область	867	76	8	97	485	201	108
(139) Наманганская область	862	64	8	84	553	153	109
(140) Самаркандская область	831	84	18	118	417	194	132
(141) Сурхандарьинская область	779	71	7	94	414	193	153
(142) Сырдарьинская область	799	77	11	135	330	246	161
(143) г. Ташкент[1]	912	225	25	172	310	180	73
(144) Ташкентская область	810	79	12	135	339	245	153
(145) Ферганская область	841	74	9	111	428	219	128
(146) Хорезмская область	867	78	8	94	451	236	102
(147) Каракалпакская АССР	813	89	6	135	360	223	142
(148) **КАЗАХСКАЯ ССР**	**807**	**93**	**11**	**154**	**289**	**260**	**159**
(149) Актюбинская область	813	77	11	144	295	256	158
(150) г. Алма-Ата[1]	898	238	25	172	279	184	85
(151) Алма-Атинская область	771	66	10	129	313	253	177
(152) Восточно-Казахстанская область	785	81	9	149	258	288	178
(153) Гурьевская область	829	86	8	157	366	212	141
(154) Джамбулская область	818	92	14	148	311	253	148
(155) Джезказганская область	836	94	10	174	296	262	137
(156) Карагандинская область	825	104	11	158	294	258	147
(157) Кзыл-Ординская область	882	129	11	163	399	180	94
(158) Кокчетавская область	753	58	9	150	235	301	206
(159) Кустанайская область	757	59	9	161	233	295	205

(160) Мангышлакская область	910	96	10	179	385	240	74
(161) Павлодарская область	800	69	10	155	[illegible]	[illegible]	169
(162) Северо-Казахстанская область	754	61	9	154	210	390	210
(163) Семипалатинская область	790	91	10	155	291	243	164
(164) Талды-Курганская область	776	70	10	150	299	247	172
(165) Тургайская область	791	70	9	151	280	281	176
(166) Уральская область	786	82	10	141	265	285	181
(167) Целиноградская область	791	74	11	162	266	278	176
(168) Чимкентская область	821	90	12	139	346	234	142
(169) ГРУЗИНСКАЯ ССР	**856**	**150**	**14**	**142**	**380**	**170**	**114**
(170) г. Тбилиси[1]	939	320	23	127	382	98	48
(171) Районы республиканского подчинения	831	96	12	149	394	150	131
(172) Абхазская АССР	838	116	15	144	336	227	135
(173) Аджарская АССР	868	115	12	133	389	209	122
(174) Юго-Осетинская автономная область	797	149	19	110	334	185	157
(175) АЗЕРБАЙДЖАНСКАЯ ССР	**832**	**106**	**15**	**127**	**[illegible]**	**224**	**126**
(176) г. Баку[1]	901	199	25	[illegible]	326	189	79
(177) Районы республиканского подчинения	803	70	10	114	371	238	145
(178) Нахичеванская АССР	839	83	12	[illegible]	424	217	120
(179) Нагорно-Карабахская автономная область	802	82	11	132	336	238	147
(180) ЛИТОВСКАЯ ССР	**711**	**95**	**15**	**[illegible]**	**194**	**247**	**247**
(181) г. Вильнюс	856	195	23	181	250	207	122
(182) МОЛДАВСКАЯ ССР	**725**	**77**	**9**	**118**	**256**	**265**	**203**
(183) г. Кишинев[1]	920	218	20	182	326	172	63
(184) ЛАТВИЙСКАЯ ССР	**795**	**106**	**19**	**175**	**234**	**201**	**182**
(185) г. Рига	865	168	28	192	288	189	121
(186) КИРГИЗСКАЯ ССР	**804**	**93**	**12**	**132**	**340**	**218**	**181**
(187) г. Фрунзе	897	[illegible]	23	175	306	196	87
(188) Районы республиканского подчинения	759	63	10	130	273	283	195
(189) Иссык-Кульская область	793	90	11	132	318	242	162
(190) Нарынская область	837	93	12	113	407	212	128
(191) Ошская область	790	66	9	116	419	180	152
(192) ТАДЖИКСКАЯ ССР	**770**	**83**	**10**	**107**	**329**	**241**	**166**
(193) г. Душанбе[1]	850	187	22	182	232	227	111
(194) Районы республиканского подчинения	730	56	8	91	316	259	206
(195) Кулябская область	771	63	8	91	359	250	170
(196) Курган-Тюбинская область	705	49	7	76	321	252	207
(197) Ленинабадская область	783	73	9	102	366	233	151
(198) Горно-Бадахшанская автономная область	860	98	10	102	468	182	100
(199) АРМЯНСКАЯ ССР	**865**	**141**	**13**	**137**	**362**	**215**	**104**
(200) г. Ереван[1]	941	255	21	144	357	164	49
(201) ТУРКМЕНСКАЯ ССР	**823**	**87**	**10**	**120**	**354**	**252**	**137**
(202) г. Ашхабад[1]	872	211	24	199	234	204	103
(203) Ашхабадская область	812	57	7	78	417	253	151
(204) Красноводская область	815	82	12	151	332	238	146
(205) Марыйская область	813	65	8	100	390	250	139
(206) Ташаузская область	811	60	7	94	356	294	148
(207) Чарджоуская область	829	81	8	125	356	259	134
(208) ЭСТОНСКАЯ ССР	**786**	**108**	**14**	**172**	**229**	**263**	**204**
(209) г. Таллин[1]	869	166	20	191	284	208	123

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DEMOGRAPHY

CONTROLLING THE SOCIAL STRUCTURE OF THE EMPLOYED POPULATION

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[Article by Professor N. Aitov, doctor of philosophical sciences: "Regulating the Social Structure of the Employed Population Through Social and Economic Development Plans"]

[Text] The social (social-class) structure of the society is the aggregate, the system of the society's social groups and their mutual relationships. The social structure is basically represented by classes that are differentiated directly by the economic relations existing among people. There are also other criteria of social differentiation, for example in socialist society: into workers involved in mental and physical labor, and into urban and rural residents. The nature of the existing differences between mental and physical labor is the product of the socioeconomic heterogeneity of these forms of labor.

Socioeconomic, cultural, and personal differences between the city and the countryside stem today in many ways from unique features of the way of life in these two areas. Fifteen to twenty years ago, dominance of kolkhoz-cooperative ownership in the countryside and national ownership in the city was the most important characteristic making the countryside different from the city. But by the time of the 1970 census, peasants involved in kolkhoz-cooperative ownership made up a minority of the rural population (20.5 percent of the total USSR population, and 44 percent of the rural population). In 1978, the kolkhoz peasantry contributed only 15.1 percent. The dominant proportion of the rural population consists of laborers and white collar workers employed by nationally owned enterprises.

It would be incorrect to "explain" the differences between the city and countryside by saying that most of the rural population is in agriculture while urban residents are involved in nonagricultural forms of labor. The proportion of agricultural employees in the countryside is dropping rapidly owing to growth of industry, transportation, communication, services, education, public health, and culture, transition of a number of production operations from agriculture to industry (grain processing for example), and growth of seasonal migrations (not less than 4 million rural residents now work in the cities). In 1977, only 60.5 percent of the rural residents were employed in agriculture. This is precisely why more attention must be turned today to the unique differences in living conditions resulting from differences in size of the population center.

Let us examine the typical traits of the social structure of developed socialist society in greater detail.

Socialism is a society moving toward classless society and complete social equality. In socialism, classes have much more in common than they do that is different.

The degree of social inequality seen in socialism differs qualitatively and quantitatively from the inequality seen in capitalism. In capitalism, it is based on the presence or absence of capital, and on the magnitude of the latter. In socialism, inequality stems from differences in the nature and content of labor, and in place of residence (city or town).

The main trend in development of the socialist structure of mature socialist society is represented by integration, by erasure of social differences, and by elimination of the last vestiges of social inequality.

On what basis are social class differences being erased? One law seen in the growing together of all classes and social groups is approximation of each of them to the level of the best indicators attained by the best of the groups.

What are the basic classes and social groups of socialist society? The working class, which made up 61.8 percent of the total population in 1978,* is the driving force.

Growth of the working class is associated with swift extensive development of our industry, and with reorganization of many kolkhozes into sovkhozes. Today, in the conditions of the scientific-technical revolution, we have entered a period of intensive development. Production growth is being achieved mainly through an increase in labor productivity and introduction of the achievements of science. This is why we can assume that the proportion of the working class within the total population would hardly rise further. On the contrary the proportion of scientists, engineers, and teachers--that is, the intelligentsia--will rise.

The working class has a rather complex structure. First, it can be subdivided into urban and rural. In the rural environment, we would have to distinguish agrarian from nonagrarian workers--that is, workers employed by industrial enterprises situated in rural areas, by construction and road maintenance organizations, by communication enterprises, and by workers in the nonproductive sphere (trade, food services, material-technical supply and marketing, medicine, education, administration, and so on).

* See "Narodnoye khozyaystvo SSR v 1978 g." [The USSR National Economy in 1978], Moscow, Izd-vo Statistika, 1979, p 9.

Workers can also be subdivided in terms of the complexity of their labor: highly skilled, skilled, low-skilled, and unskilled. The implication here is not the degree to which the individual has assimilated his occupation, but rather the sort of labor involved in his occupation--simple or complex. This criterion for dividing the working class derives from Marx' idea about simple and complex labor. In socialism--which for the time being is still a class society--differences in the complexity of labor result from differences in its nature. In the socioeconomic sense, complex and simple labor are heterogeneous forms of labor, and it is precisely the heterogeneity of labor that serves as the basis for internal differentiation of the working class. Thus we categorize highly skilled personnel as those involved in the maintenance of complex systems, requiring graduation from a two-year vocational-technical school or even a secondary special education (the worker may or may not have such an education, but if he performs complex work, he falls within this group). Unskilled workers include those doing simple labor not requiring training, except for instruction in industrial safety (loader, cable-setter, cleaning woman, carrier, and so on).

Statistical organs do not maintain precise accounts of the proportion of workers in different social groups. And yet such an accounting would be the most important, since it permits us to determine differences in the social behavior of workers. It is no accident that this subdivision was adopted in the Methodological Recommendations for the Planning of the Social Development of Enterprise Collectives (Moscow, Profizdat, 1976). Studies conducted locally by the sociological laboratory of the Ufa Aviation Institute under the guidance of the author in Magnitogorsk, Naberezhnyye Chelny, Kamyshin, Bel'tsy, and in cities of the Bashkir ASSR--Ufa, Sterlitamak, Neftekamsk, and Uchaly, showed that 16-37 percent of urban workers are highly skilled, more than half are skilled, 20-25 percent are low-skilled, and 2.5-6 percent are unskilled.

Inasmuch as the research was conducted in cities containing different sets of production sectors and both new and old enterprises, we might say that these figures are a good approximation of the situation in the USSR as a whole. The second class of socialist society is the kolkhoz peasantry, which is divided into the same labor complexity groups as is the working class. Highly skilled kolkhoz farmers include mechanics, some repair shop workers, electricians, and builders, skilled workers include most mechanics, low-skilled workers include manual laborers in animal husbandry, and unskilled workers are employed as ranch-hands and manual laborers.

Workers involved in mental labor--the intelligentsia and nonspecialist white collar workers--make up a large social group. The intelligentsia includes workers doing complex mental labor requiring a higher or special secondary education. A person may or may not have such an education, but he is categorized as a member of the intelligentsia if his labor is sufficiently complex. This is why a practical engineer who completed his tenth year of high school is characterized as a member of intelligentsia, while a fitter with a higher education is classified as a skilled worker.

In turn, the intelligentsia is subdivided into three groups--specialists with a higher education, specialists with a secondary education, and practitioners.

Nonspecialist white collar workers are workers doing simple mental labor not requiring a higher or a secondary special education (laboratory assistants, cashiers, secretary-typists, administrative clerks, office workers, and so on). Unfortunately it is practically impossible to accurately compute their proportion among all workers involved in mental labor.

The main trend in development of the social structure of the society of mature socialism is the gradual growing together of all classes and social groups.

Erasure of social differences between the working class and the peasantry is proceeding mainly owing to growth in the collectivization of kolkhoz cooperative property, which is the result of growth in the fixed capital of the kolkhozes, and development of interfarm cooperation and agroindustrial integration.

Most of the rural population is represented today by laborers and white collar workers. Therefore the problems involving differences in the city and countryside--the lower income, services, culture, education, and possibilities for thorough development of the personality in the countryside--involve not only the peasantry but all rural social groups. The ways to solve this problem are spelled out in Chapter III (Article 26) of the USSR Constitution: "The USSR is consistently implementing a program to transform agricultural labor into a variant of industrial labor; to expand the rural network of institutions of national education, culture, public health, trade and public food services, and personal and communal services; to transform towns and villages into settlements offering all of the public services and amenities."

The material base for erasing the differences between mental and physical labor is full automation of production, which is fundamentally changing the nature of the worker's labor. The worker is transforming from an immediate participant of production, supplementing the machine, into a person supervising a production process. His main function in automated production involves making preparations for production (setting up, tuning, repairing, and adjusting equipment, and maintaining general control over its work). In this case mental labor is beginning to occupy an ever-larger place in the sum total of his activities. The movement of efficiency experts and inventors, and participation of laborers and kolkhoz farmers in administration of production and in all affairs of the society are broadening.

The most important prerequisite for erasure of differences between mental and physical labor is raising the cultural and technical level of workers and kolkhoz farmers. Comprehensive development of the personality is both the result and a prerequisite of erasure of significant differences between mental and physical labor.

The trends in the development of the social-class structure of socialist society must manifest itself identically in all regions of the country, regions differing from one another in economic and social conditions. Hence follows the need for special, conscious, and planned control of the social-class structure on the part of the society. One of the most important tools of such control is social planning at the enterprise, sector, and regional level.

Social planning may be defined as a means of conscious, planned control of social ties and of different forms of social processes, and improvement of the population's living conditions.

It is precisely in socialism that objective processes (including development of industrial relations) may proceed consciously and according to plan. The degree of planning of such development increases as socialism matures. It is no accident that it is precisely in the stage of developed socialist society that the state plans for development of the USSR national economy have started to be called plans for economic and social development.

And yet certain scientific works, and even methodological documents, for example the "Methodological Directives on Writing Plans of Economic and Social Development of Autonomous Republics, Krays, Oblasts, and Republic (RSFSR) Sectors" (Moscow, Izd-vo Ekonomika, 1978), social planning is interpreted one-sidedly in my opinion, exclusively as controlled improvement of the population's welfare.

As we saw earlier, the main processes occurring in social-class relations are ones of growth in social uniformity, of erasure of all social boundaries. But it is rather difficult to control them.

What means do we have at our disposal to control social relations and social processes through social planning? Naturally we cannot directly plan, for example, comprehensive development of the personality or the degree to which social differences are to be erased between workers doing mental and physical labor within a five-year plan at a given enterprise. All we can plan are the conditions under which social relations and social processes (including change in the social structure) would develop in a way desirable to the society. The conditions include material (for example, social control of technical progress in the direction of full automation), organizational (improvement of the work of party, soviet, business, trade union, and other organizations having to do with problems bearing the greatest significance to the given object of social planning at the present time), and ideological (that is, development of public opinion on certain issues in accordance with the interests of the society).

Workers involved in planning are changing social relations by creating certain material conditions. Social effectiveness is being considered not only on a countrywide scale but also at all other levels of control in all decision making situations. This means that a decision to build a plant in a particular locality must be made on the basis of the criteria of not only economic effectiveness but also socioeconomic effectiveness, for example with a consideration of how construction would influence the social structure of the population, the manpower balance, personnel turnover, and labor discipline (research has shown that when manpower is lacking, personnel turnover rises dramatically and labor discipline worsens). Moreover we would have to consider how the given decision would influence the relationship between male and female labor. Thus adoption of an economic decision must be preceded by a prediction of its social consequences.

Of course, subdivision of the consequences of adopted decisions into economic and social is rather arbitrary. We cannot state unambiguously that reduction of personnel turnover is either a social or an economic result. As a rule, change in social relations or in the course of social processes in a direction desirable to the society produces a positive economic result as well. Still, however, there are a number of different forms of social effectiveness which do not automatically produce an economic impact but which are necessary, inasmuch as they are a goal in and of itself to the society. They would include erasure of social differences and elimination of social inequality. Consequently solution of these problems would require special outlays.

Social planning is realistic and effective only in developed socialism, where social antagonisms have completely disappeared from within the society, the basic interests of all social groups are the same, and all social groups have been brought significantly closer together. All of this, when combined with a planned system of management, creates the possibility for really controlling and consciously planning development of the social-class structure of the society in the direction defined by the objective trends of the society's development.

The inviolable union of all social groups in Soviet society is growing ever-stronger as social differences become erased. However, even this positive, objective process requires competent control. Today, the main prerequisite for erasure of social differences is multifaceted technical progress. To eliminate social differences between workers involved in mental and physical labor, we need a material base represented by full automation of production; to eliminate social differences between the working class and the peasantry, we would need full mechanization of agricultural labor, which would have to be transformed into a variant of industrial labor. But technical progress is still being planned only with a consideration for economic and technical criteria, and it is being controlled only by engineers who do not have a full idea about the social consequences of the new equipment they design and produce. As a result technical progress has led to unexpected growth of the proportion of unskilled workers in some enterprises.

Eliminating unskilled labor is an important problem. For a long time our country experienced mass migration of the population from the countryside to the city. The level of education in the countryside was low until the early 1960's, and migration elicited accumulation of unskilled manpower in the cities. Moreover, it was mainly the principal production processes of industry that were subjected to mechanization and automation, while subsidiary and auxiliary operations (as well as labor in the services sphere) remained unmechanized, an area of unskilled labor.

As the cultural and educational level of the urban and rural public climbed, especially in connection with transition to universal secondary education, the social sources for replenishing the unskilled work force practically disappeared in the USSR. About 90 percent of the migrants from the countryside to the city are presently people up to 30 years old having a secondary or eight-year education, moving to the city not for material reasons (the motive of seeking higher-paid jobs contributes not more than 3-5 percent to all motives for migration), but rather due to the desire to engage in labor requiring higher skills in the city. Thus the problem of eliminating, over a period of two or three five-year plans, the very need for unskilled labor arises.

Its solution has great practical significance at the present stage. I believe that it would be economically more feasible to organize the work of eliminating the need for unskilled labor through the plans for social development of the different sectors. Technical progress could also be regulated through plans for social development of oblasts and republics. In any case, we have accumulated good experience in writing and fulfilling programs to reduce manual labor in the Lithuanian SSR, and in Zaporozhskaya Oblast. The practical experience shows the absence of social planning at some enterprises and cities is leading to a reverse trend, one in opposition to the general course of development of the social structure.

We now begin development of a plan for social development of an enterprise collective as well as a city by analyzing the plans for technical progress and predicting its social consequences. If we find that the social structure would worsen as a result of these plans, we would have to re-examine the plan of technical progress itself. In the first place this permits us to equalize, to a highly significant extent, the social structures of difference enterprises and cities, and thus reduce personnel turnover and migration of the population. Second, total countrywide elimination of the trend toward backward movement in the social structure would permit us to reduce, and then completely eliminate social groups consisting of unskilled laborers and kolkhoz farmers in the USSR as a whole.

The second important problem associated with change in the social structure (reflected mainly in the plans of social development of kolkhozes, sovkhozes, and rural rayons and oblasts) is acceleration of the erasure of differences between the working class and the kolkhoz peasantry, and between the city and countryside. This problem is being solved through further mechanization and automation of agricultural labor (construction of large industrial animal husbandry complexes acquired especially great scope in the USSR in recent years), enlargement of rural population centers (in 1959-1970, the number of inhabitants of towns with populations over 1,000 increased by several million in the face of a general reduction of the rural population), improvement of the infrastructure (roads, bus services, communications) of the countryside, improvement of the rural population's education and culture, and provision of communal conveniences to the countryside (gas, water pipelines, and so on).

Special attention is being devoted to creating conditions for educating the young for work in animal husbandry complexes and with machines used in farming. Thus a number of kolkhozes are building homes to be provided free to newlyweds; young people are being offered good possibilities for upgrading their skills, and well-outfitted clubs and libraries are being built for them--that is, a sufficient cultural environment is being created for them. It stands to reason that we do not imply limiting the freedom of choice of place of residence by some sort of administrative measures.

The third important problem in controlling the social structure through the plans of social development is to equalize to some extent the social structures of different socioeconomic units (cities, towns, and so on) of the society. Of course, the social structures of a city of 1 million and a city of 10,000 would obviously never become completely alike; our objective is simply to raise, to a certain extent, the quality of the social structure in small cities, bringing it closer to the level in large ones.

As a rule, the smaller the city, the lower is the educational level of its intelligentsia in comparison with that in large cities. Moreover the proportion of the intelligentsia within the population is smaller as well. The labor of workers in a small city is often less skilled than in a large one. It may be concluded that the very large enterprises that cannot be built in a small city always turn out to be the best equipped. Therefore insufficient complexity of labor is one of the important causes of migration of educated youth from small cities.

Noticeable deviations can be detected between the same social group in cities of different types in relation to cultural level, education, the nature of consumption, and so on. In terms of a number of parameters, for example, the differences between workers of Ufa and Sibay are found to be greater than between workers and the intelligentsia of Ufa.

What sort of measures that would at least partially erase these differences should be written into the plans for social development of cities and oblasts? First, graduates of institutions of higher education and tekhnikums need to be sent to work in small cities. A purposeful policy of priority placement of VUZ graduates in small cities will help to improve the composition of their intelligentsia, and raise its proportion within the population. Moreover this would promote a general improvement in the city's cultural environment, as well as acceleration of technical progress in the industrial enterprises.

However, the main problem is not to send more of the intelligentsia into small and medium-size cities, but rather to create the conditions under which they could realize their creative capabilities.

Second, we need to organize, in the small cities, branches of industrial associations having their main plants in large cities. By being within the composition of a large industrial association, a small enterprise in a small city receives substantial technical assistance from the association's main plant, and as experience shows, it may catch up to it in equipment availability within a relatively short time. And this means that the social structure of the workers would improve dramatically as well.

Third, we need to expand construction of cultural-educational institutions and scientific centers in the city. Thus the small city of Oktyabr'skiy in the Bashkir ASSR (with a population of 80,000) is not much inferior to the population of the capital of Ufa in cultural respects owing to presence of scientific research organizations and cultural institutions.

Thus social planning may be an effective means for controlling the social structure. Clearly this control must be exercised in accordance with the real economic possibilities, and with an eye on expediency. For example we could hardly hope to fully eliminate social differences between the city and the countryside, and between workers employed in mental and physical labor within a single five-year plan. We do not have the material possibility for doing so.

The planning of technical progress with the consideration of not only the economic and technical but also the social impact, and correct distribution of national economic sectors and development of culture and personal services are the most important resources for controlling the social-class structure. This represents utilization of material conditions as a lever. Social planning is inseparable from economic planning, and it acts basically through it. In essence, this means that all measures of economic planning are drawn up with a consideration for attaining a social impact, improving the social structure of the society in particular.

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CENSUS RESULTS REVEAL SIGNIFICANT SOCIAL PROGRESS

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[Article by A. Isupov: "Big Social Achievements (Results of the All-Union Population Census)"]

[Text] In January 1979 the regular All-Union Population Census took place. Its results show that in the nine years that elapsed since the 1970 census, that is, in the period when the tremendous social-economic program adopted by the 24th party congress was put into practice and the tasks of the Tenth Five-Year Plan set by the 25th CPSU Congress are being fulfilled, the population of the Soviet Union increased by 20.7 million people. Its size as of 17 January 1979 was 262,436,000 persons. Major qualitative changes have taken place in the composition of the Soviet people. Their educational level has become higher, each nationality has undergone further all-round development and at the same time the progressive process of the drawing closer of all the nations and nationalities has continued, while changes have taken place in the distribution of the population as to marriage, sources of the means of livelihood and in regard to other indicators.

In the period between the two last census of 1970 and 1979, population growth has proceeded at a stable pace--on the average of 0.92 percent per year. This is higher than in many capitalist countries. The average yearly growth of the population during 1970-1978 in the United States, for example, was 0.85 percent, in Italy--0.70 percent, in France--0.65 percent, in Sweden --0.45 percent, in the FRG--0.20 percent and in Great Britain--0.10 percent. The stable growth of the population in the USSR in the 1970s was aided by a favorable sex and age structure: the numerically higher generations born in the 1950's, when the birthrate was higher, entered the reproductive age. The number of those married consequently increased.

Incidentally, we might note that in connection with the remote consequences of World War II the demographic situation will be different in this decade. The able-bodied and reproductive age will come to include young people born in the 1960s when the birthrate had dropped and together with a reduction in establishment of new married couples and subsequent reduction in the number of births compared to the past decade, growth of labor resources will be curtailed. In this connection, the task of most rational utilization of manpower and growth of labor productivity is becoming particularly pressing.

Comrade L.I. Brezhnev, substantiating the need for a sharp rise in the efficiency of public production, pointed out in a summary report to the 25th CPSU Congress: "In the eighties, this task becomes particularly urgent. This is primarily connected with exacerbation of the problem of labor resources. We must rely rely not on the bringing in of additional manpower but on higher labor productivity. Sharp curtailment of the share of manual labor, comprehensive mechanization and automation of production become a necessary condition of economic growth."[1]

The size of the population in the period between the censuses increased in all the union republics (see table 1).

Table 1

	Thousands of Persons		1979 in % of 1970
	1970	1979	
USSR	241,720	262,436	109
RSFSR	130,079	137,551	106
Ukrainian SSR	47,126	49,755	106
Belorussian SSR	9,002	9,560	106
Uzbek SSR	11,799	15,391	130
Kazakh SSR	13,009	14,684	113
Georgian SSR	4,686	5,015	107
Azerbaijan SSR	5,117	6,028	118
Lithuanian SSR	3,128	3,398	109
Moldavian SSR	3,569	3,947	111
Latvian SSR	2,364	2,521	107
Kirgiz SSR	2,934	3,529	120
Tadzhik SSR	2,900	3,801	131
Armenian SSR	2,492	3,031	122
Turkmen SSR	2,159	2,759	128
Estonian SSR	1,356	1,466	108

Certain sovietologists abroad are displaying special interest in the question of population growth for the union republics. Thus, the French newspaper LE MONDE asked L.I. Brezhnev the following question: "Don't you think that the accelerated growth of the size of the population in the national republics may involve certain structural changes?" To this L.I. Brezhnev replied: "In regard to the growth of population in these or those republics of our country, we are not disturbed by this phenomenon. Quite the contrary, it makes us happy, as it reflects first and foremost the powerful rise of the economic level of our republics, including the tremendous growth of the well-being of the population of the former outskirts of tsarist Russia, the colossal progress which it achieved on the path of socialist transformations. All this in the final analysis strengthens that unique fusion which we call a new historical community—the Soviet people."[2]

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[1] "Materialy XXV s"yezda KPSS" [Materials of the 25th CPSU Congress]. Moscow, Politizdat, 1977, p 43.

A most important principle of Leninist national policy is equal and free development of all nations and nationalities. The population of autonomous Soviet socialist republics and autonomous oblasts grew from 1970 to 1978 from 22.2 milion to 24.0 million persons, or 8 percent. The size of the population of autonomous okrugs increased by 38 percent, that is, growth was sevenfold higher than the average for the RSFSR, where these national formations are to be found. In the former outlying regions of prerevolutionary Russia, natural wealth is being developed at a tempestuous rate, the economy and culture are growing, the well-being of the people is being upgraded. This is striking proof of the accomplishment of Leninist national policy in the USSR.

Population growth of union and autonomous republics, krays, oblasts and okrugs increased the density of settlement of the Soviet Union. For the country there are now 11.8 inhabitants per square kilometer. The most densely settled are the territories of Moldavia (117 inhabitants per square kilometer), Armenia (102), Ukraine (82), Georgia (72), Azerbaijan (70 inhabitants per square kilometer). In the RSFSR the most densely settled are the territories of Tul'skaya Oblast, where 74 persons live on one square kilometer, Severo-Osetinskaya and Chuvashskaya ASSR (75 and 71 inhabitants per square kilometers, respectively), Kuybyshevskaya, Kaliningradskaya, Vladimirskaya and a number of other oblasts where there are more than 50 persons per square kilometer.

According to the data of the 1979 census, 193.2 million of 262.4 million people (73.6 percent) live in the European part of the country and 69.2 million (26.4 percent) in its Asian part. In the latter, the population increased from 1970 through 1978 by 16.7 percent and in the European part--by 5.9 percent. The more rapid growth of the population in the eastern regions of the country reflects the results of the policy of the CPSU and the Soviet state aimed at the further development of the productive forces in these regions. Against a 9 year growth of 6 percent for the RSFSR as a whole, the number of inhabitants of the regions of Siberia and the Far East increased 11 percent. This is explained by the influx here during the Ninth and Tenth Five-Year Plans of workers and specialists from all corners of our country in connection with the expansion of the fuel and power base, the

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2. PRAVDA, 16 June 1977.

creation of power systems, development of industry and construction of the Baykal-Amur Maine Line. In some of the oblasts of these regions, population growth has been significantly above average. Thus, in Tyumenskaya Oblast where the development of gas and oil deposits has been on a wide scale, the size of the population increased 34 percent. In Magadanskaya and Kamchatskaya oblasts growth of the number of inhabitants amounted to 32 percent, in Yakutskaya ASSR--26 percent, Amurskaya Oblast--18 percent and in Khabarovskiy and Primorskiy krays--16 and 15 percent, respectively.

As a result of the growth of industry in the country, the urban population is constantly growing. Data of the 1979 census show that in the nine years following the 1970 census, the number of city dwellers grew from 136 million to 163.6 million persons and their share in the country's entire population increased from 56 to 62 percent (see table 2). At the same time, the rural population has become smaller as a consequence of a shift of some of it to residence in cities and also as the result of transformation of rural residential areas into urban ones.

In the years of the Soviet power, 1,188 cities have been formed in the country. The number of large cities with populations of 100,000 or more inhabitants has grown rapidly. The 1959 census established 148 large cities, while according to the 1970 census their number was 221. By 1979 there were 273 such cities. New industrial cities are growing particularly rapidly: from 1970 to 1978, the population of Tol'yatti grew twofold, Naberezhnyye Chelny --eightfold, Nizhnekamsk -- 2.7-fold, Nizhnevartovsk--sevenfold, Surgut--threefold, Sumgait--1.5-fold and so on.

The number of very large cities of 500,000 or more inhabitants grew from 33 in 1970 to 45 in 1979. The 1970 census showed 10 cities with a population of more than one million people: Moscow, Leningrad, Kiev, Tashkent, Baku, Khar'kov, Gor'kiy, Novosibirsk, Kuybyshev, Sverdlovsk. In the period between the 1970 and 1979 census, the number of cities achieving the status of a million population was eight: Minsk, Dnepropetrovsk, Tbilisi, Odessa, Chelyabinsk, Donetsk, Yerevan, Omsk.

The growth of cities and the size of the urban population will continue to grow in the future. But for the purpose of improving the national-economic structure of large cities, the party and the government have set the task of restraining their growth and developing economically promising small and medium-size cities.

During 1970-1978, the city population grew by 27.6 million persons, including because of: natural growth in cities--12 million and the transformation of rural localities into urban and movement of rural inhabitants to cities--15.6 million persons. The faster growth of the urban compared to the rural population is an objective process due to the development of industry and transport, large scale of construction work, mechanization and rise of labor productivity in agriculture. As was pointed out at the July (1978) Plenum

Table 2

Years	Size of Population millions of persons		In Percent of Total Population	
	urban	rural	urban	rural
1913	28.5	130.7	18	82
1939	60.4	130.3	32	68
1959	100.0	108.8	48	52
1970	136.0	105.7	56	44
1979	163.6	98.8	62	38

of the CPSU Central Committee, in 1977 labor productivity per worker on kolkhozes and sovkhozes was 169 percent of the 1965 level, which is the equivalent of a labor saving of 16 million persons per year. At the same time, for the purpose of further boosting of agriculture, the Plenum set as a task of attaching to the countryside cadres of workers, especially machine operators.

The results of the 1979 population census compared to past data demonstrate tremendous achievements in the economic and cultural growth of the USSR. Industrialization, socialist cooperation of agriculture and a genuine cultural revolution produced remarkable results in historically short periods of time, as borne out by indicators on population distribution according to level of education, nationalities, sources of means of livelihood and so on.

Big successes have been achieved in elimination of illiteracy and upgrading of the cultural level of the population. Whereas according to the 1897 census--the only universal population census in tsarist Russia--almost three-quarters of the country's adult population was illiterate, in 1979 more than 80 percent of persons employed in the national economy have higher or secondary (complete or incomplete) education. Now all forms of instruction take in about 100 million persons. Obligatory universal secondary education of the youth is being realized in the country. According to the 1979 census, 139.1 million persons had completed higher or secondary (complete or incomplete) education, which is 46 percent greater than in 1970. At the same time, the biggest growth applies to people who have completed a full cycle of education--higher and secondary (see table 3).

In 1979, according to census data there were 14.8 million persons with higher education and 3.2 million with not completed higher education. According to the 1897 census, only 139,000 persons had complete or incomplete higher education. In tsarist Russia one person out of every thousand had such a level of education and now the figure is 69.

Tremendous progress in the scientific-technical level of the population's learning has been achieved both in the city and in the countryside. From 1939 to 1979, the contingent of persons with higher or secondary (complete

Table 3

	Millions of Persons			Number of Persons per 1,000 of Population of 10 Years of Age or Older with Given Level of Education		
	1959	1970	1979	1959	1970	1979
Total for persons with higher or secondary (complete or incomplete) education	58.7	95.0	139.1	361	483	638
including:						
higher complete	3.8	8.3	14.8	23	42	68
higher incomplete	1.7	2.6	3.2	11	13	15
secondary specialized	7.9	13.4	23.5	48	68	107
secondary general	9.9	23.4	45.1	61	119	207
incomplete secondary	35.4	47.3	52.5	218	241	241

or incomplete) education per 1,000 inhabitants in urban localities grew 3.3-fold, in rural localities almost tenfold and among workers 3.6-fold and eleven fold, respectively. Whereas in 1939 among the urban population of 10 years of age or older there were 218 persons per 1,000 with higher or secondary (complete or incomplete) education, among the rural population the figure was only 52. According to the data of the 1979 census, the corresponding indicators were 723 and 492, that is, a significant drawing closer had taken place in the level of education of the urban and rural population.

In our country, a social problem of tremendous historical significance has been solved--genuine equality of women has been provided in fact. Soviet women play a big role in all spheres of public life. Their level of education is increasingly drawing closer to the educational level of men. According to the 1979 population, there were 685 men per 1,000 of all men aged 10 or older with higher or secondary (complete or incomplete) education and only 597 per 1,000 of all women of the same level of education. Among working men and women, the share of persons with this level of education is practically identical: 810 and 801.

The level of education has grown in all the union republics. It is increasing at the highest rates in the republics of Central Asia, Kazakhstan and Moldavia. As a result, the relative share of persons with higher or secondary education has leveled out perceptibly in some republics, especially among the working population. According to the last census, for the USSR as a whole, 805 of every 1,000 persons employed in the national economy had the given level of education. For union republics, this indicator fluctuated from 711 in Lithuanian SSR to 868 in Armenian SSR. We cite for comparison the corresponding data for the 1959 census: USSR--433, Lithuanian SSR--250 and Armenian SSR--527. As we see, in the period from 1959 to 1979, the educational level of the population for the union republics grew significantly closer.

Thanks to the concern of the Communist Party and the Soviet government for the development of a solid base in the country for continuously raising the general-educational and cultural-technical level of the population, there have been created in the USSR highly skilled cadres of workers, kolkhoz farmers and employees, who ensure the rapid progress of the socialist economy.

In the friendly family of Soviet peoples, 100 nations and nationalities live and work together. In an address by A.P. Kirilenko at the triumphal session devoted to the 62nd anniversary of the Great October Socialist Revolution, it was pointed out that "...within the framework of the USSR, peoples formerly oppressed by tsarism have achieved a flourishing of their material and spiritual forces. All the Soviet peoples live as a single family and direct the common cause of communist construction."[3] Materials of the censuses provide a detailed demographic, social-economic description of each people.

In the 1979 census, as in all the preceding Soviet population censuses, nationality and native language of persons interrogated were recorded on the census sheet on the personal determination and instruction of the citizens themselves. The nationality and native language of children were indicated by the parents.

The census showed that the population of 22 nations, including the main peoples of all the union republics and a number of autonomous republics and oblasts consisted of one to 137 million people. The population of the 30 nationalities, including nationalities representing republic, oblast and okrug autonomies consisted of 100,000 to 756,000 people.

According to the data of the 1979 census, 93.1 percent of the country's entire population looked upon the language of their nationality as their native language and 6.9 percent languages of other nationalities of the USSR.

Data of the spread of languages of the peoples of the USSR are of major interest. The Russian language is the most widespread. It is called the native language by 153.5 million people (59 percent), whereas Russians who consider this language as their native tongue numbered 137.2 million persons. Consequently, 16.3 million people of non-Russian nationality consider the Russian language as their own (according to the data of the 1970 population the size of such a population comprises 13 million people).

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[3] PRAVDA, 7 Nov 1979.

Moreover, 61.3 million persons named the Russian language as a second language, one in which they were fluent, versus 41.9 million people in 1970. The Russian language in all is a native or a second language for 77.4 million persons, or 62 percent of the non-Russian population of the USSR (in 1970, the figures were 54.8 million people or 49 percent). The Ukrainian, Belorussian, Uzbek and a number of other languages are also quite widespread.

All this testifies to the constant economic and social development of each republic and to the continuously rising educational and cultural level of its people, which creates broad possibilities for active mobility of the population, close cooperation and mutual enrichment of the different nationalities. More than 40 peoples of the USSR prior to the revolution did not have their own written language and have acquired it only in the years of the Soviet power. Books were not published in such languages as Moldavian, Kirgiz, Tadzhik, Turkmen, Bashkir, Kalmyk and others. With the victory of October, they became state languages in their own republics, all kinds of literature are published in them, and they are studied in the schools.

The 1979 census records 66.3 million families whose members comprise 232.5 million people, or 89 percent of the country's total population. Of the remaining 11 percent, 5 percent are also members of families, only they reside separately and 6 percent live singly. The average size of a family (living together) for the country as a whole is 3.5 persons, in cities--3.3 and in rural localities--3.8 persons. Compared to 1970, the number of families of two to four persons has increased, while the number of families of 5 or more persons has grown smaller. For this reason, the average size of the family has grown smaller; in 1970 it consisted of 3.7 persons for the country as a whole, 3.5 in cities and 4 in rural localities.

In conformity with cultural traditions, demographic and other conditions, average family size markedly differs for the union republics. In the RSFSR, Ukrainian SSR, Belorussian SSR, Moldavian SSR and the Baltic republics, it numbers 3.1-3.4 persons, in Georgia and Kazakhstan--4.0 and 4.1 persons and in the republics of Central Asia, Azerbaijan SSR and Armenian SSR--4.6-5.7 persons.

According to the data of the 1979 census, 122.6 million men and women were married, marriage constituting the foundation of the family. Compared to the 1970 census, the number of persons married increased by 15.4 million, or by 14.4 percent. As we know, in the program of the present census, the question of the married state was asked in a comprehensive formulation that included four subquestions: married; never married; widower, widow; divorced, separated.[4] According to the obtained data, compared to men, there was among women a smaller percentage married and more widows and divorcees.

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4. The 1970 census used a short formulation of the question: "Are you married at the present time? Yes or no."

This is, on the one hand, a remote consequence of World War II on whose fronts a large part of the male population was killed[5] and, on the other, the result of men's shorter life span. Both of these factors have contributed to having the number of women exceed the number of men in the older ages and have affected the indicators of the married category.

Of important significance to the analysis of labor resources of the country is information obtained as the result of the 1979 census on the distribution of the population according to the means of livelihood. Of the 262.1 million people of the permanent population, 134.9 million, or 51.5 percent, were employed in the national economy, working at enterprises, on kolkhozes, in institutions or organizations; 80.2 million persons (30.6 percent)--dependents of individuals (basically children and the elderly living on the means of parents or relatives) as well as persons employed in the private subsidiary sector and living on earnings from it; 40.1 million persons (15.3 percent) were supported by the state--these were mostly pensioners and also pupils of vocational and technical schools, boarding schools, persons living in homes for invalids, the aged and so on; 6.6 million (2.5 percent) were persons living on stipends, that is, students of higher educational institutions and pupils of secondary specialized educational institutions and other schools, receiving a stipend; 271,000 persons (0.1 percent) had other sources of livelihood--savings, income from rent and so on.

The number of persons employed in the national economy increased, compared to 1970, by 20 million persons, or 17 percent.

Work on the materials of the All-Union Population Census of 1979 is continuing. Its completion will provide detailed data on the distribution of the population according to sectors of the national economy, occupation, social groups, migration, number of children born as well as groupings characterizing the make-up of the population on the basis of a combination of different characteristics.

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[5] The war took more than 20 million lives of Soviet people and upset the age-group sector. According to the 1959 census, the number of women exceeded the number of men by 20.7 million persons, according to the 1970 census--by 18.9 million and according to the 1979 census--by 17.8 million.

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